South African Medical Journal
Suid-Afrikaanse Tydskrif vir Geneeskunde
P.O. Box 643, Cape Town Posbus 643, Kaapstad

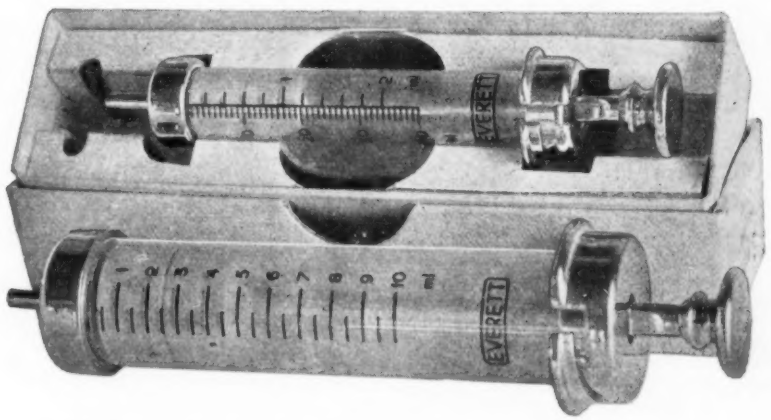
Cape Town, 2 June 1956 Weekly 2s. 6d. | Vol. 30 No. 22 | Kaapstad, 2 Junie 1956 Weekliks 2s. 6d.

CONTENTS — INHOUD

Isolated Dislocation of the Head of the Fibula. *Bernard Polonsky, M.B., M.Ch. Orth. (L'pool), F.R.C.S. (Edin.)* 505
Union Department of Health Bulletin 506
Editorial : Van die Redaksie
Contraception 507
Die Verhoeding van Bevrugting 507
Experimental Research into Problems of Ageing 508
Studies in die Diagnose en Behandeling by Gevalle van Perikarditis met Beklemming van die Hart. *L. F. Malherbe, M.B., B.Ch., en A. J. Brink, M.D., M.R.C.P. (Lond.)* 509
Suppurative Pylephlebitis of the Portal Vein following a Mucocele of the Appendix. *H. Rudinsky, M.B., B.Ch. (Rand), C. Isaacson, M.B., B.Ch. (Rand), and J. Gold, M.B., B.Ch. (Rand)* ... 514
Rupture of the Uterus. *A. A. Linington, M.B., B.Ch. (Rand)* ... 516
Books Received : Boeke Ontvang 518
The Difficulties and Dangers of Cardiovascular Surgery with an arrested Circulation. *Paul Marchand, Ch.M. (Rand), F.R.C.S., and J. C. Allan, Ch.M. (Rand), F.R.C.S. (Edin.)* 519
Radio-Active Cobalt Bombs and Supervoltage Radiotherapy for South Africa. *M. Wienbren, B.Sc., M.R.C.S., L.R.C.P., F.F.R., D.M.R.E.* 520
Minister of Health replies to Health Debate in Parliament ... 522
Official Announcements : Amptelike Aankondigings. Appointment of Editor : Aanstelling van Redakteur. Appointment of Assistant Secretary : Aanstelling van Assistent-Sekretaris 522
Research into the Causes of Death Associated with Surgical Operations 523
Passing Events : In die Verbygaan 524
Reviews of Books : Boekresensies 524
Correspondence : Briewerubriek 526

THE **NEW** SYRINGE

EVERETT'S LAMINEX RECORD TYPE



The Pistons, having the same co-efficient expansion as the barrels, ensure the barest minimum of breakages.

Clearest graduations.

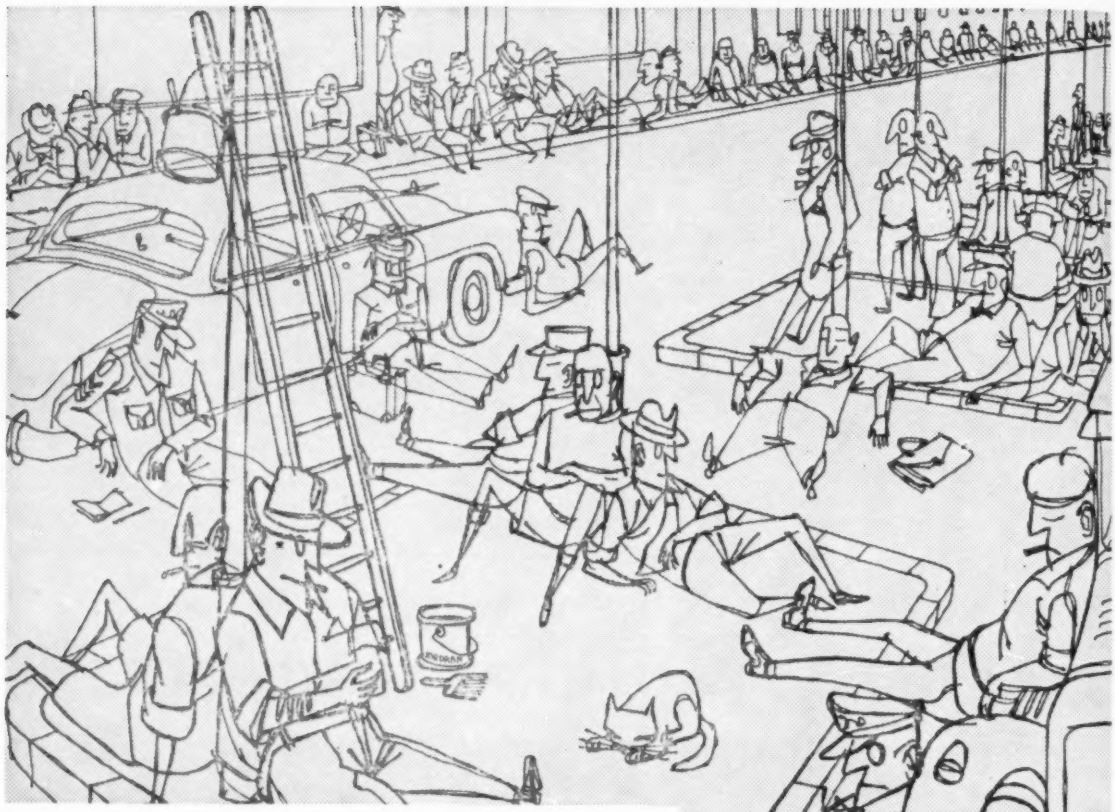
Glass barrels made to withstand temperatures up to 200°C.

1c.c./20mm.	2c.c./40mm.	5c.c.	10c.c.	20c.c.	
6/6	7/6	10/6	12/6	14/6	Central Nozzles.
—	—	10/6	12/6	14/6	Side "

GURR SURGICAL INSTRUMENTS (Pty.) Ltd.

Harley Chambers - Kruis Street - P.O. Box 1562 - Johannesburg

Please Support Our Advertisers — Ondersteun Asseblief Ons Adverteerders



Imagine . . . a world without energy!

Rusting steamships, idle power-stations, no trains, empty highways, silent factories. Our pattern of existence drastically changed. Countries of the world once more as remote from each other as we are from the Moon. A world almost impossible to visualize.

Life in the free world to-day depends on more than seventy thousand trillion (70,000,000,000,000,000) British thermal units of energy being available to run the machines which multiply our productivity and improve our standards of living. The use of energy increased by 34 per cent from 1938 to 1948. It is expected to increase another 36 per cent between 1948 and 1958.

To meet this expanding need, all the free world's energy resources are required. Coal and oil, for instance, supply more than 50,000,000,000,000,000 BTU's; natural gas (relatively new in the energy market and confined almost entirely to the United States) about 10,000,000,000,000,000 BTU's and water power about 5,000,000,000,000,000.

The use of oil products is increasing more and more. That of natural gas in certain areas at a spectacular rate. Nuclear energy looms as a new source of industrial power and in the years to come will be making a substantial contribution to the world's work. For a long time, though, the world as we know it will still require petroleum fuels and lubricants such as those supplied in Southern Africa by the Vacuum Oil Company.

Mobiloil

MARKETERS OF RED HORSE PRODUCTS

Y-304

South African Medical Journal
Suid-Afrikaanse Tydskrif vir Geneeskunde
P.O. Box 643, Cape Town Posbus 643, Kaapstad

Cape Town, 2 June 1956 Vol. 30 No. 22 Kaapstad, 2 Junie 1956
Weekly 2s. 6d. Weekliks 2s. 6d.

ISOLATED DISLOCATION OF THE HEAD OF THE FIBULA

BERNARD POLONSKY, M.B., M.CH.ORTH. (L'POOL), F.R.C.S. (EDIN.)

Johannesburg

Dislocation of the head of the fibula occurring as an isolated incident is a very rare injury and the majority of the standard text-books on Fracture Surgery make no mention of the condition at all. A review of the literature until 1940 shows that about 49 cases only had been reported. During the recent war, however, the injury was not infrequently encountered during falls in parachute landing and was usually associated with an inversion sprain of the ankle of the same limb.

The reason for the rarity of the condition is to be found in the stability of the superior tibio-fibular joint. This articulation takes place between flat oval cartilage-covered facets on the head of the fibula and the lateral condyle of the tibia. The latter facet is situated posteriorly. The bony surfaces are held together by a synovial-lined capsule which is strengthened by anterior and posterior ligaments. The anterior ligament consists of 2 or 3 flat bands which pass obliquely upwards from the front of the head of the fibula to the front of the lateral condyle of the tibia.

The posterior ligament is a thick band which passes obliquely upwards from the back of the head of the fibula to the back of the lateral condyle of the tibia. It is covered by the tendon of the popliteus. The joint is further strengthened laterally by the cord-like fibular collateral ligament of the knee joint and by the insertion of the tendon of biceps femoris, which is split in two by the insertion of the ligament. The synovium of the superior tibio-fibular joint is usually independent of that of the knee joint but sometimes communicates with it indirectly by means of a small deficiency of the posterior ligament whereby the synovial membrane is continuous with the synovial sheath of the tendon of popliteus.

The association of dislocation of the head of the fibula and inversion sprain of the ankle joint is due to the mechanism of injury causing this dislocation. The mechanism consists of a fall on the limb with the foot inverted and the knee flexed; at the same time there is a lateral twisting motion of the trunk which is transmitted to the tibia, causing the head of the fibula to be sprung away from the tibia.

The dislocation may occur anteriorly, posteriorly or upwards. The anterior dislocation must also be displaced laterally since the head of the fibula lies behind the lateral condyle of the tibia. The most commonly reported is the anterior dislocation. Posterior dislocations are serious in that they may be associated with chronic dislocation and peroneal nerve palsy. The upward dislocation is extremely rare and is always associated with injuries around the ankle joint.

The symptoms consist of pain localized to the head of the fibula. This pain is aggravated by movement of the joint. Movements of the joint are limited by pain. In the anterior dislocation the head of the fibula is prominent. Usually the patient is unable to walk. In every case the ankle should be carefully examined for evidence of inversion sprain or tear of the external lateral ligament of the ankle joint. The X-ray clearly demonstrates the dislocation.

Reduction is said to be accomplished quite readily by direct pressure on the dislocated head. This should be applied with the knee flexed to relax the biceps femoris and with the ankle inverted. Classically a loud snapping sound accompanies reduction. Most authors advise immobilization for 4-6 weeks in a plaster cast. Some cases, however, have been completely symptom-free immediately after reduction without immobilization. If reduction is stable lengthy immobilization may be unnecessary and can be dispensed with after 10 days.

CASE REPORT

The patient, a young male, L.L., in his early twenties, sustained an injury to his right knee whilst playing football. He was unable to relate the exact mechanism of injury. He complained of pain localized to the head of the fibula and of a prominent swelling over that site. Full flexion and extension of the right knee-joint were limited by pain. There was no effusion into the right knee but the patient was unable to walk. He complained also of severe pain over the external lateral ligament of the right ankle-joint.

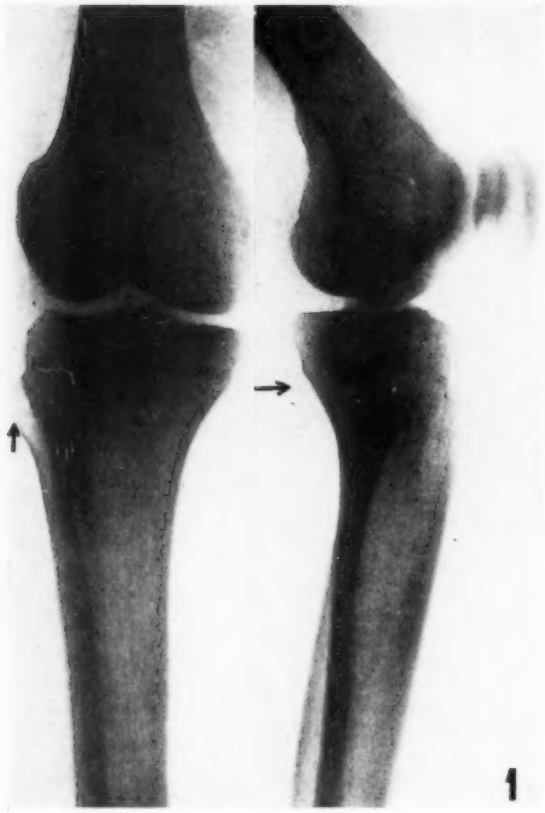


Fig. 1. Pointers show site of dislocation.

X-ray examination showed an anterior dislocation of the head of the fibula.

He was given a general anaesthetic and strenuous efforts were made to reduce the dislocation, keeping the knee flexed and the ankle inverted. These proved unsuccessful and it was therefore decided to carry out reduction by open operation. The peroneal nerve was isolated and retracted with a tape. The articular facet on the head of the fibula and the corresponding facet on the lateral condyle of the tibia were then displayed. After some difficult manoeuvering the head of the fibula was reduced. The reduction was very stable and there was no tendency to re-dislocation. The wound was closed and the knee immobilized on a back-splint for 10 days. Quadriceps drill was carried out hourly and on the 10th post-operation day the sutures were removed and flexion and extension instituted. Weight-bearing without support was allowed from the 14th day. One week later the patient had full free painless movements of the knee joint. When examined 6 weeks after the accident he was found to have made a complete recovery and had no disability.

Fig. 2. After reduction.

SUMMARY

A case is presented of isolated dislocation of the head of the fibula. The anatomy of the superior tibio-fibular joint is discussed, and the rarity of incidence of the condition. The types of dislocation are described together with the mechanism of production, clinical signs and treatment.

REFERENCES

1. Macklin, W. E., Hartman, C. M. and Peterson, H. O. (1940): Minnesota Med., **23**, 649.
2. Lord, C. D. and Coutts, J. W. (1944): J. Bone. Jt. Surg., **26**, 547.
3. Vitt, R. J. (1948): *Ibid.*, **30A**, 1012.
4. Key, J. A. and Conwell, H. E. (1946): *The Management of Fractures, Dislocations and Sprains*, 4th ed., p. 1126. St. Louis: C. V. Mosby.
5. Johnston, T. B. and Whillis, J. (1944): *Gray's Anatomy*, 28th ed., p. 409. London: Longmans, Green.
6. Frazer, J. E. (1937): *Buchanan's Manual of Anatomy*, p. 659. London: Baillière, Tindall and Cox.

UNION DEPARTMENT OF HEALTH BULLETIN

Union Department of Health Bulletin. Report for the 8 days ended 17 May 1956.

Plague, Smallpox, Typhus Fever. Nil.

Epidemic Diseases in Other Countries.

Plague. Nil.

Cholera in Calcutta (India); Chittagong, Dacca (Pakistan).

Smallpox in Rangoon (Burma); Allahabad, Bombay, Calcutta, Cuddalore, Delhi, Kozhikode, Madras, Pondicherry (India); Karachi, Lahore (Pakistan); Tourane (Viêt-Nam); Mombasa (Kenya).

Typhus Fever. Nil.

South African Medical Journal

Suid-Afrikaanse Tydskrif vir Geneeskunde

EDITORIAL

CONTRACEPTION

Few general practitioners can nowadays afford to disclaim knowledge of contraceptive methods and techniques. Whatever the social and religious reservations that one may have on the morality of the principle, none will deny—least of all the average practitioner in a modern community—that some sort of plan must be followed in raising a family. Young married life is an economic venture that needs to be planned and navigated as carefully as an ocean voyage, to which an unexpected baby can often have the same dire result as an uncharted rock. Contraceptive guidance is a task usually devolving upon the medical adviser of the family, and the methods and techniques of practising it have become part of the stock-in-trade of the family doctor. It is said to be as commonplace as antenatal advice and baby care and as important as gynaecological success, on which the welfare of the practice traditionally depends.

Despite the intelligent attitude of many married couples, there is an influential body of both tacit and active opposition to contraception. The most active—and certainly the most dogmatic—disapproval is that based upon purely religious grounds. Those that oppose it on these grounds hold that fecundation is an integral part of the act of coitus and that any procedure aimed at thwarting the course of nature is contrary to God's will. Therefore, any artificial contraceptive is forbidden. (This argument falls completely outside the professional sphere of the medical man; it affects him only as a member of the human family. In the same way as anyone else, he either accepts the principle of contraception or rejects it.) However, on the purely scientific level sufficient opposition exists to put an edge on the apathy surrounding its scientific study, and to maintain the whole question in a state of controversy. Many other problems of preventive medicine in the modern community, e.g. traffic accidents and safety in the home, are chronically neglected; but contraception suffers under the additional disadvantage of being socially unacceptable as well. The suspicion and semi-disapproval of all but the most liberal thinkers of the community has, in the past, cast a cloud over the activities of the Family Planning Association in Britain and similar pioneers in South Africa, and it has undoubtedly hampered the healthy distribution of contraceptives and what may be called their legitimate use. Far, however, from curtailing the trade in contraceptives, this attitude has forced

VAN DIE REDAKSIE

DIE VERHOEDING VAN BEVRUGTING

Deesdae kan min geneeshere dit bekostig om kennis van voorbehoedmetodes en -tegnieke te veronagsaam. Wat ook al die individu se sosiale en godsdienstige voorbehoud in verband met die morele beginsel is, kan geeneen dit betwis nie—allerminste die gewone huisdokter in die hedendaagse gemeenskap—dat een of ander vorm van gesinsbeplanning nodig is. Die eerste jare van die huwelikslewe is 'n ekonomiese onderneming wat net so sorgvuldig beplan en bestuur moet word as 'n wêreldseereis—die geboorte van 'n baba waarvoor geen voorsiening gemaak is nie kan tot dieselfde rampspoedige gevolge lei as 'n rots wat nog nie op 'n kaart gebring is nie.

Ten spyte van die intelligente houding van baie getroude pare is daar sterk teenstand stilswyend en uitgesproke teen die verhoeding van bevrugting. Die mees aktiewe—en seer seker die mees dogmatiese—afkeuring berus op die suiwer godsdienstige grondslag dat bevrugting 'n integrale deel van paring is en dat enige prosedure wat die dwarsboming van die natuur beoog, teenstrydig met die wil van God is. Derhalwe is kunsmatige geboortebeperking verbode. (Hierdie redenering val geheel en al buite die professionele sfeer van die geneesheer, dit raak hom net as mens. Net soos enige ander individu aanvaar hy of verwerp hy die beginsel van die verhoeding van bevrugting). Nietemin is daar op suiwer wetenskaplike peil genoegsame teenstand om die apatie waarin die wetenskaplike studie van die probleem verkeer te vererger en om die geskil aan die gang te hou. Baie ander probleme i.v.m. voorbehoedgeneeskunde in die moderne gemeenskap, soos bv. verkeersongevalle en tuisveiligheid, ly aan kroniese verwaarlosing, maar verhoeding van bevrugting ly nog aan die verdere kwaal dat dit deur die gemeenskap afgekeur word. Die agterdog en gedeeltelike afkeuring waarmee almal, behalwe die mees liberaaldenkendes, hierdie probleem bejeen, werp 'n skaduwee op die aktiwiteite van die Family Planning Association in Brittanje en op die werk van dergelyke baanbrekers in Suid-Afrika. Dit het sonder twyfel die heilsame verspreiding van voorbehoedmiddels en die gebruik daarvan wat as wettig bestempel kan word, bemoeilik. Instede egter dat hierdie houding die handel in voorbehoedmiddels ingekort het, het dit die verkoop van hierdie middels ‚onder die toonbank' gedryf. Die half agterbakse handel in voorbehoedmiddels vir mans wat in sekere skugter plekke plaasvind, asook in kroeë, haarkappers-

their sale to be carried on 'under the counter'. The semi-clandestine trade carried on in male contraceptives from certain shy places, and from saloon bars, barber shops, etc., can hardly elevate the respectability of contraception as a practice. Inevitably the public will associate contraceptives and contraception with this rather sordid method of purchase, as something 'not nice', something associated with extra-marital relations. It emphasizes the less defensible aspects of contraception. While the majority of contraceptives are probably sold in more reputable circumstances, over the chemist's counter or on the prescription of a doctor, this clandestine traffic is sufficiently large to be damaging to its respectability.

In marked contrast are the sound socio-economic reasons advanced in modern times, not only in justification of the practice, but also for propagating knowledge of it and promoting research into safer and simpler techniques. The British Royal Commission on Population (1949) stated: 'Control by men and women over the numbers of their children is one of the first conditions of their own and the community's welfare, and in our view mechanical and chemical means of contraception have to be accepted as part of the modern means, however imperfect, by which it can be exercised'.[1] This attitude, viz. that contraception is a means of extending human freedom of choice, is the strongest moral argument of those who hold these views. 'The biologist who gives time to this problem', states the *Lancet*[2] in editorial comment, 'need have no doubt that he is meeting a universal human need and wish'. Many people are unaware—or too unintelligent to be made aware—of the economic boon of a planned family, and it is at this class of individual that the advice and guidance given by the family planning associations is chiefly directed. Educated people with good sanitary facilities can practise contraception, as far as avoiding pregnancy is concerned, with ease and fair success; but for the ill-equipped and unintelligent it is another matter. 'It is the poor man (and woman) under bad conditions who most needs and desires an advance in biological methods of controlling fertility'.[2] It is in this work, rather than by invoking neo-Malthusian doctrines to justify it, and in the measure in which they can contribute to human happiness in the future, that the advocates of contraception for intelligent family planning will find their true reward.

1. *Report of the Royal Commission on Population.* (1949): London: H.M. Stationery Office.
2. Editorial (1956): *Lancet*, **1**, 142.

winkels e.d.m. besoedel die probleem. Die publiek sal noodwendig voorbehoedmiddels en die verhoeding van bevrugting met hierdie iewat onsmaaklike verkoopsmetode assosieer as iets wat nie juis ordentlik is nie, iets wat met buitehuwelikse verhoudings gepaard gaan. Dit lê klem op die verdagte aspekte van teenbevrugting. Alhoewel die meeste voorbehoedmiddels waarskynlik onder ordentlike omstandighede oor die apteker se toonbank of op voorskrif van die geneesheer verkoop word, is die onsmaaklike verkoop nogtans groot genoeg om die ordentlikheid te ondermyn.

In opvallende teenstelling is die deeglike sosio-ekonomiese redes wat deesdae aangevoer word om nie alleen teenbevrugting te verdedig nie maar ook om kennis daarvan te propageer en navorsing i.v.m. veiliger en eenvoudiger metodes aan te wakker. 'n Verklaring deur die British Royal Commission on Population (1949) lui as volg: ‚Control by men and women over the numbers of their children is one of the first conditions of their own and the community's welfare, and in our view mechanical and chemical means of contraception have to be accepted as part of the modern means, however imperfect, by which it can be exercised.'[1] Hierdie houding dat teenbevrugting die individu se vryheid van keuse verhoog is die sterkste morele redenering van diegene wat hierdie standpunt handhaaf. In 'n hoofartikel van die *Lancet*[2] verskyn hierdie opmerking: ‚the biologist who gives time to this problem, need have no doubt that he is meeting a universal human need and wish'. Baie mense is onbewus—of te onintelligent om daarvan bewus gemaak te word—van die ekonomiese seën van 'n beplande gesin, en dit is vir hierdie groep waarvoor die advies en leiding van gesinsbeplanningsverenigings bedoel is. Opgevoede mense met goeie higiëniese fasiliteite kan, sover dit die vermyding van swangerskap betref, teenbevrugting met gemak en redelike welslae beoefen; maar vir die swaktoegeruste en onintelligente is dit 'n ander kwessie. ‚It is the poor man (and woman) under bad conditions who most needs and desires an advance in biological methods of controlling fertility'.[2] Dit is in hierdie werk, eerder as om hul op neo-Malthusleerstellings te beroep om dit te regverdig, en tot die mate waartoe hul tot die geluk van die toekomstige geslagte kan bydra, dat die voorstanders van intelligente gesinsbeplanning, hul opregte beloning sal vind.

1. *Report of the Royal Commission on Population* (1949): Londen: H.M. Stationery Office.
2. Van die Redaksie (1956): *Lancet* **1**, 142.

EXPERIMENTAL RESEARCH INTO PROBLEMS OF AGEING

Experimental Research into Problems of Ageing. The Trustees of the Ciba Foundation for the promotion of international cooperation in medical and chemical research, wishing to encourage well-conceived research relevant to basic problems of ageing, invite candidates to submit papers descriptive of work in the field for the awards for 1957. Before an entry is submitted copies of the regulations and form of application must be obtained from the Secretary of the Executive Council, Dr. G. E. W. Wolstenholme, 41 Portland Place, London, W. 1, but the following general information is supplied to candidates.

Not less than 5 awards of an average value of £300 each are available in 1957. Entries must be received not later than 31 January 1957, and the announcement of awards will be made in July 1957. The work submitted should not have been published before 31 May 1956, though it may be under consideration for publication at that date. Papers may be in the candidates' own language. They should not be more than 7,000 words in length, and a summary in English, not exceeding in words 3% of the length of the paper, must be attached. Where there is more than one co-author, the name of the leading author should be indicated: it is to him that the award will normally be made, and he may share the award at his discretion. In making the award preference will be given to younger workers.

STUDIES IN DIE DIAGNOSE EN BEHANDELING BY GEVALLE VAN PERIKARDITIS MET BEKLEMMING VAN DIE HART*

L. F. MALHERBE, M.B., B.CH.

en

A. J. BRINK, M.D., M.R.C.P. (LOND.)

Die Hart-Eenheid (W.N.N.R.), Departement Interne Geneeskunde, Universiteit van Pretoria

Perikarditis met beklemming van die hart is 'n toestand wat 'n swak prognose dra, en het 'n hoë mortaliteit by onbehandelde gevalle.[1-5]

Die uitgesproke geval van perikarditis met beklemming kan met vertroue op kliniese grondslag gediagnoseer word.

Die huidige studie staan in verband met bevestiging van die diagnose deur middel van kardiale kateterisasie en die korrelasie van kateter-bevindings met die kliniese beeld vóór en ná perikardiëktomie. Op hierdie wyse word daar veral gepoog om die diagnose van beklemming in die vroeë stadia te bevestig en operatiewe behandeling van dié soort geval met dié van die reeds goed ontwikkelde kroniese konstriktiewe beeld te vergelyk.[6]

Materiaal

Studies is sover uitgevoer op 14 gevalle van perikarditis met beklemming. Hiervan is 9 pasiënte reeds geopereer.

Voorkoms en Etiologie

In die reeks blyk dit dat konstriktiewe perikarditis veral aangetref word onder Bantoe-mans. Al 14 pasiënte was mans, en 12 was wel Bantoes, en 2 was Blankes. Dit is in ooreenstemming met ander waarnemings.[7] Die ouderdom waarop die toestand voorkom, in die reeks, wissel vanaf 18 jaar tot 60 jaar. Die gemiddelde ouderdom is 35 jaar.

Die juiste etiologie van die konstriktiewe perikarditis blyk in die meeste gevalle die gevolg van tuberkulose is te wees.[5,8,9] By 6 uit die 9 van ons pasiënte wat reeds perikardiëktomie ondergaan het, was bewys van 'n moontlike tuberkulose-etiologie gevind deur middel van sputum-ondersoeke, perikardiale vog-ondersoeke, klierbiopsieë en perikardiumbiopsieë. Biopsie van die perikardium sal nie in alle gevalle die diagnose van tuberkulose ondersteun nie al was daar ander bewys van tuberkulose gevind. In slegs 4 van die 6 bogenoemde gevalle waar tuberkulose bewys is, is die biopsie van die perikardium positief gevind. Die biopsie in die oorblywende 5 pasiënte het die beeld van kroniese ontsteking getoon, sonder aanduiding van 'n definitiewe etiologie.

Diagnose

Die kliniese diagnose is afhanklik van die stadia waartoe die perikarditis ontwikkel het (Fig. 1). In die stadium van effusie is die simptome en tekens ook afhanklik van die geaardheid sowel as die hoeveelheid van perikardiale vog wat teenwoordig mag wees. 'n Etterige effusie sal byvoorbeeld gepaard gaan met 'n swaaiende koors, terwyl 'n groot effusie as gevolg van druk op die brongi hoes as simptoom mag wys. Die meeste van die pasiënte met konstriktiewe perikarditis word by die eerste opname reeds in die stadium van beklemming gevind, soos aangedui in Fig. 1 waar 8 uit ons 14 pasiënte by die eerste ondersoek in 'n duidelike beklemmingsbeeld was. In 'n paar uitsonderings egter,

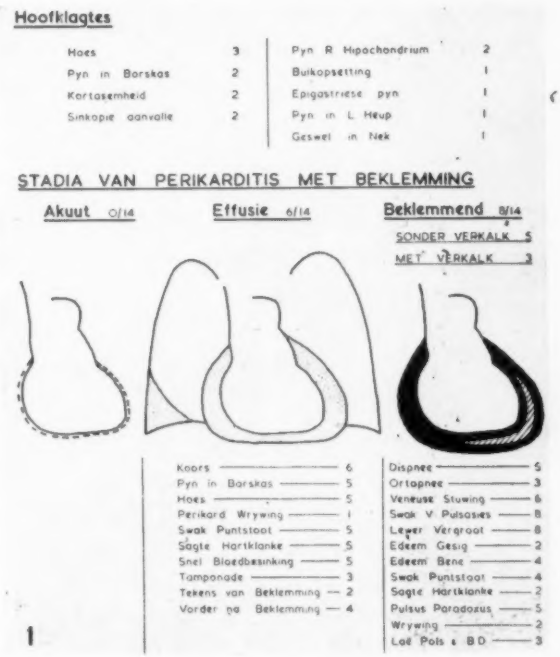


Fig. 1.

kan vroeër stadia gesien word en die ontwikkeling van beklemming waargeneem word. Dit het by 4 uit ons 14 pasiënte gebeur.† Hieruit blyk dit dat gevalle met konstriktiewe perikarditis ontwikkel vanaf 'n stadium van akute perikarditis, wat deur 'n stadium van perikardiale effusie na een van beklemming vorder, en nog later tot perikardiale verkalking kan oorgaan.

Die groot verskeidenheid van hoofklagtes en fisiese bevindings, word in Fig. 1 uiteengesit. Die duur van die hoofklagte het gewissel vanaf 1 week tot 2 jaar met 'n gemiddelde tydperk van 4 maande in die reeks.

* 'n Referaat gelewer tydens die Suid-Afrikaanse Mediese Kongres, Pretoria, Oktober 1955.

† 'n Vyfde pasiënt in die reeks het onlangs, na 'n jaar opvolg, ook na beklemming gevorder.

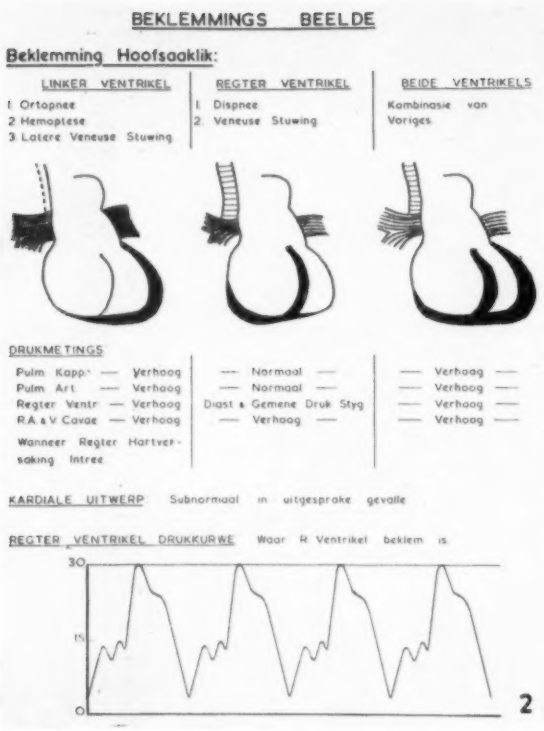


Fig. 2.

In die stadium van beklemming kon die belangrikste simptome en tekens hoofsaaklik verklaar word op een van drie beklemmingsbeelde. Met 'n oorwegende linker ventrikulêre beklemming is ortopneë en hemoptoie prominente simptome. Regter ventrikulêre versaking met veneuse stuwing kan dan later hierop volg. Een pasiënt in hierdie reeks het so voorgekom. Waar die regter ventrikel oorwegend beklem is, soos by 9 pasiente, het die beeld van veneuse stuwing met sy gevolge as prominente kliniese verskynsels voorgekom terwyl dispnee minder uitgesproke was en veral met inspanning voorgekom het. In sommige gevalle, 3 in hierdie reeks, is die beeld dié van 'n gesamentlike beklemming van albei ventrikels met 'n gevolglike kombinasie van simptome en tekens van die beklemmingsbeeld van die linker of regter ventrikel alleen. Hierdie verskillende beklemmingsbeelde word in Fig. 2 uiteengesit. Hier word ook 'n voorbeeld aangegee van die drukkurwe in die regter ventrikel by regter ventrikulêre beklemming.

Kardiale Kateterisasie

Kardiale kateterisasie was in hierdie reeks gevalle nuttig gevind by die bevestiging van die diagnose, veral in die vroeë stadia van beklemming. Op dié tydstip veral is 'n korrekte diagnose baie belangrik daar vroeë operatiewe behandeling, tegnies en terapeuties, meer bevredigend blyk te wees.[6]

Soos met die kliniese bevindings is die kateterisasie-bevindings afhanklik van die tipe beklemmingsbeeld (Fig. 2). 'n Regter ventrikel drukkurwe word onderskei by die gevalle waar die regter ventrikel beklem is. Die patroon is kenmerkend[10-13] en bestaan uit 'n trog vroeg in diastolie wat dan vinnig styg tot 'n diastoliese plateau vir die res van diastolie. Hoewel hierdie patroon ook gevind kan word by regter ventrikulêre versaking, as gevolg van ander oorsake,[11,14] sal die afwesigheid daarvan die diagnose van konstriktiewe perikarditis uitskakel. Die minuut volume is tipies verlaag in die uitgesproke gevalle. In hierdie reeks is dit opgemerk dat uit die 5 gevalle waar 'n subnormale minuut volume gevind was, twee pasiënte klagtes gehad het van sinkopie met inspanning. Beklemming van die linker ventrikel veroorsaak 'n verhoging van die pulmonale kapillêre drukke en veroorsaak ook 'n pulmonale hipertensie. Die drukmetings word dus grootliks beïnvloed deur die tipe van beklemmingspatroon wat teenwoordig is, en word in Fig. 2 aangedui.

Fig. 3. X-foto's van pasiënt met perikardiale effusie wat vorder tot perikardiale beklemming.

Radiologie

Nieteenstaande die feit dat die radiologiese beeld baie kan wissel, is dit tog van waarde gevind, veral saam met deurligting. Die radiologiese beeld is dan vanselfsprekend ook afhanklik van die stadium van perikarditis en ook van die beklemmingspatroon.

In die stadium van effusie, soos aangedui in Fig. 3, is die hartskaduwee groot en flesvormig. Met verdere verloop van die toestand klaar die effusie op en ontwikkel die beeld in 'n beklemmingstadium. Die teenwoordigheid van vog by die regter pleura-holte was 'n konstante bevinding by al ons pasiënte met perikardiale effusie, nl. by 6. In die akute stadium en later weer in die stadium van beklemming, kan die hartgrootte normaal wees. Verskeie ander radiologiese beelde is in ons reeks waargeneem en voorbeelde word in Fig. 4 verstrek. Vier

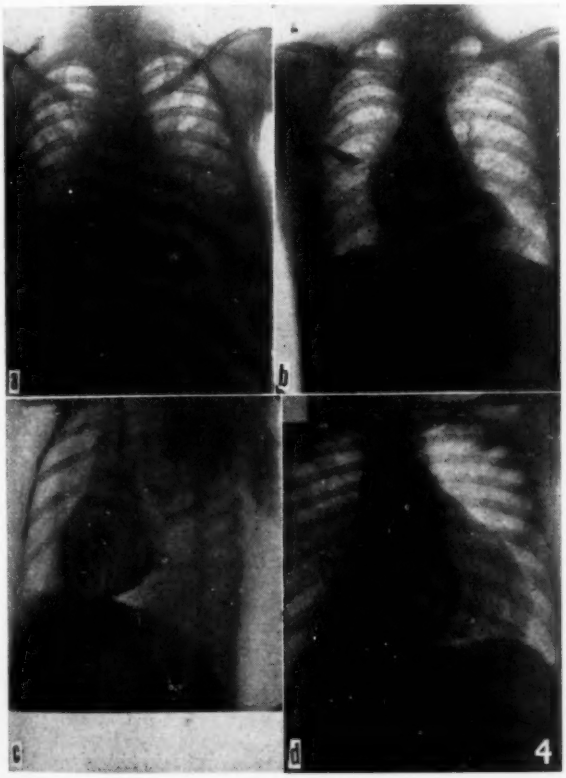


Fig. 4. Verskeie X-straalbeelde aangetref by pasiënte met die tipe perikarditis wat kan vorder tot perikardiale beklemming: (*a*) Algemene hartvergroting met longstuwing. (*b*) Perikardiale verkalking met linker ventrikel-aneurisma deur dun gedeelte van perikardium. (*c*) Uitgebreide perikardiale verkalking. (*d*) Kunsmatige pneumo-perikardium demonstreer verdikte perikardium.

pasiënte het algemene hartvergroting met longstuwing aangedui (Fig. 4*a*). Een pasiënt se radiologiese beeld was dié van 'n plaaslike aneurismale uitbulting van die linker ventrikel deur 'n verdunde streek perikardium wat andersins dik en verkalk was (Fig. 4*b*). Daar was 3 in hierdie reeks wat 'n dik verkalkte perikardium getoon het (Fig. 4*c*). By 2 pasiënte, deur middel van 'n lugtoediening in die perikardium, kon 'n baie dik perikardium in assosiasie met perikardiale vog gedemonstreer word (Fig. 4*d*).

Die deurligtingbevindings is waardevol gevind en die graad van beweging van die hartgrense is ook 'n aanduiding van watter kamer die meeste beklem is.

Elektrokardiografie

Die elektrokardiografiese patrone was van baie waarde gevind in hierdie reeks en word in Fig. 5 uitgebeeld. Die afwykings word gekenmerk deur 'n lae spanningshoogte van die komplekse en deur die teenwoordigheid van iso-elektriese of negatiewe T-uitwykings in die meeste afleidings, beide standaard bipolêr sowel as unipolêre borskas- en ekstremiteit-afleidings.

Die T-uitwyking is iso-elektries of negatief gevind in al 3 die standaard-afleïdings by 11 pasiënte. Alleen in 3 pasiënte was daar 'n positiewe T-uitwyking in afleiding I gesien. In die prekordiale afleidings was die T-uitwykings iso-elektries of negatief gevind in al 6 afleidings by 7 pasiënte. Linker ventrikulêre afleidings het positiewe T-uitwykings gehad in 4 van die reeks pasiënte. By 3 ander pasiënte was die negatiewe uitwykings in die prekordiale afleidings slegs oor die linker ventrikel te sien.

Die ST-segmente het deurgaans geen merkwaardige opwaartse of afwaartse verplasing getoon nie. Die spanningshoogte was abnormaal laag in al die afleidings by 9 van die pasiënte.

Die ritme van die hart was 'n normale sinus-ritme in 12 van die reeks. Een pasiënt het 'n atrium-fibrillasie gehad en 1 het ekstrasistole getoon.

Daar was geen ander noemenswaardige veranderinge in die eletkrokardiografiese komplekse of in die geleidingsmeganisme te sien nie.

Resultate van Perikardiëktomie en Kontrole-Kateterisasie-Bevindings

Nege van die reeks pasiënte het perikardiëktomie ondergaan. Sewe hiervan het 'n kontrole-kateterisasiestudie gehad. Volgens die kateterbevindings soos uitgebeeld in Fig. 6 het 6 van hierdie pasiënte verbetering getoon. Daar was geen verbetering in die oorblywende pasiënt nie. 'n Perikardiale effusie was teenwoordig in 6 pasiënte voordat 'n beklemmingsbeeld gesien was. Vyf van hierdie pasiënte het tot 'n beklemmingsbeeld gevorder. Alleen 4 het tot operasie gekom. Van hierdie 4 geopereerde pasiënte het 2 'n uitstekende resultaat getoon en feitlik normaal voorgekom, beide klinies sowel as met kateterisasie. Die ander 2 pasiënte is egter binne die eerste 24 uur na operasie oorlede. Van die 5 ander geopereerde pasiënte was 1 in 'n vroeë stadium van beklemming, sonder die teenwoordigheid van 'n perikardiale effusie. Die pasiënt het ook 'n uitstekende na-operatiewe verbetering getoon.

Twee pasiënte wat operasie ondergaan het was reeds in 'n gevorderde stadium van beklemming met uitgebreide perikardiale verkalkings. Een van hierdie 2 pasiënte het matige verbetering getoon, terwyl die ander pasiënt deurgaans slegter voorgekom het en die kateterisasiebevindings was erger as die pre-operatiewe bevindings.

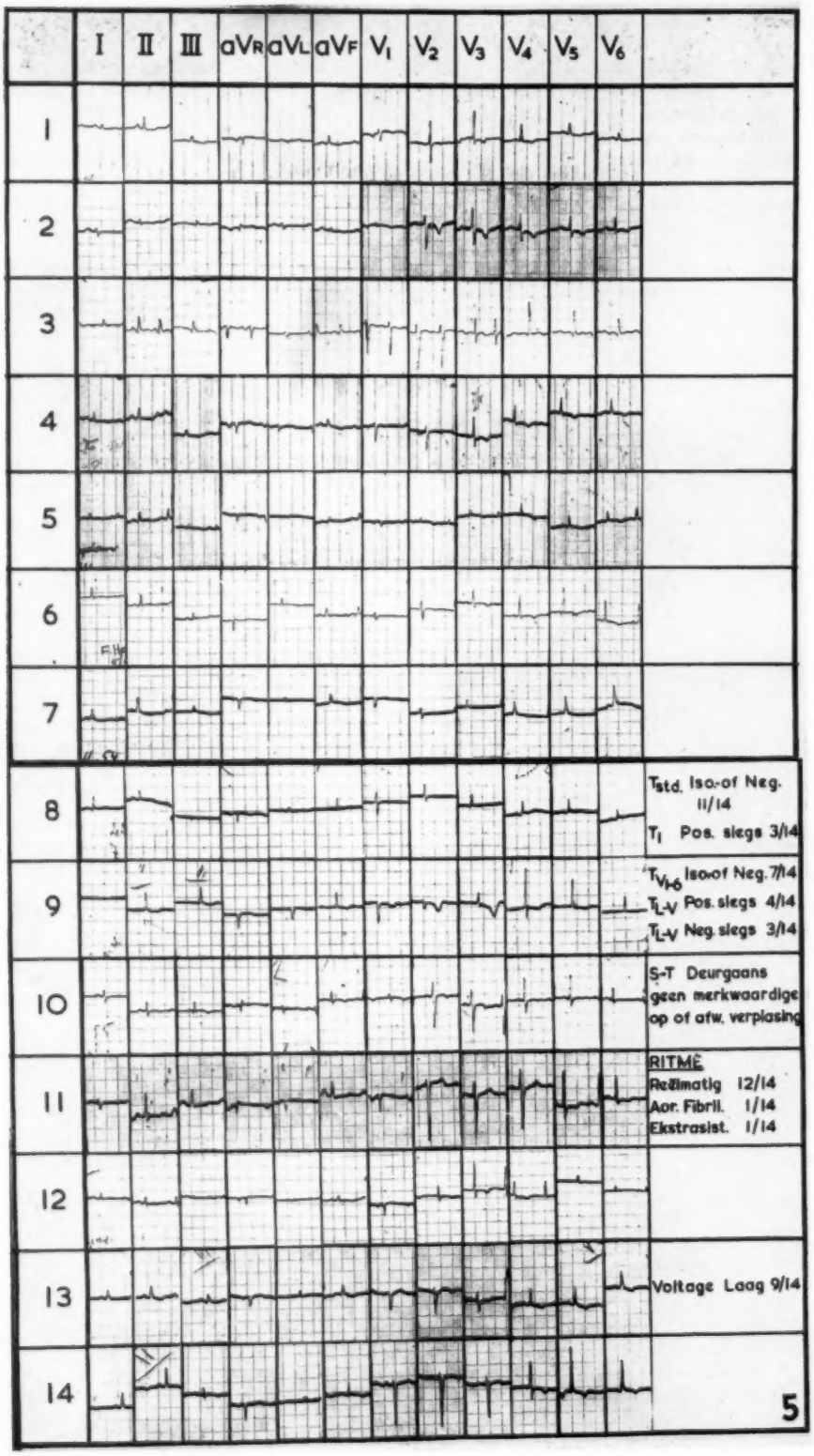


Fig. 5. Die elektrokardiografiese beeld by 14 pasiënte met perikarditis waarvan 13 konstriksie ontwikkel het.

PASIËNTE No's			1	2	3	4	6	9	10	5	13
PULMONALE KAPILLÊRE DRUKKE	Voor	Norm									+
		Hoog	+	+	+	+	+	+	+	+	
	Na	Beter	N	+	N	+	N		N		
		Slegter						S			
PULMONALE ARTERIE DRUKKE	Voor	Norm						+			+
		Hoog	+	+	+	+	+		+	+	
	Na	Beter		+	N	+	N		+		
		Slegter	+					S			
REGTER VENTRIKEL DRUKKE	Voor	Norm									
		Hoog	+	+	+	+	+	+	+	+	+
	Na	Beter	+	+	N	+	N		N		
		Slegter						S			
REGTER VENTRIKEL BEKLEM PATROON	Voor	Nee									
		Ja	+	+	+	+	+	+	+	+	+
	Na	Beter	+	+	N	+	N		N		
		Slegter						S			
R ATRIUM en VENA CAVAE DRUKKE	Voor	Norm									
		Hoog	+	+	+	+	+	+	+	+	+
	Na	Beter	+	+	N	+	N		+		
		Slegter						S			
KARDIALE UITWERPING	Voor	Norm	+		+	+	+		+	+	+
		Laag		+				+			
	Na	Norm	+	+	+	+	+		+		
		Laag						S			
STADIUM WAARIN OP UITGEVOER IS 6			Laat	Laat + Verkalk	Vroeg na Effusie	Laat	Vroeg na Effusie	Laat Verkalk Ventrik Aneur	Vroeg	Vroeg na Effusie Post-op Dood	

Fig. 6. Na-operatiewe kontrole-kateterisasie.

By hierdie pasiënt was die ventrikulêre aneurisma dan ook teenwoordig.

Die oorblywende 2 pasiënte is albei geopereer in die stadium van gevorderde beklemming sonder die teenwoordigheid van verkalking. Hoewel die na-operatiewe kateterisasie-bevindings nie normaal was nie, het beide egter redelik goeie kliniese verbeteringe getoon.

GEVOLGTREKKINGS EN OPSOMMING

By die reeks van 14 pasiënte waarvan 13 konstriktiewe perikarditis gehad het of ontwikkel het, het dit geblyk dat die kliniese bevindings baie kan wissel. Die simptome en tekens is hoofsaaklik afhanklik van die stadia waartoe die perikarditis gevorder het en of die linker of regter kant van die hart die meeste beklem is.

Uit 6 gevalle met 'n perikardiale effusie aanvanklik, het 5 uiteindelik na 'n beklemmingsbeeld gevorder. Die oorblywende pasiënt is dood voordat 'n beklemmingsbeeld ontwikkel het.

Tuberkulose was die etiologiese faktor by 6 van die 9 pasiënte waar die etiologie deur middel van sputumondersoeke, perikardiale vog-ondersoeke, klierbiopsieë en perikardiumbiopsieë nagegaan kon word. Die ander 3 het nie 'n bekende etiologie getoon nie. Vier uit die 5 pasiënte wat deur die stadia van effusie na beklemming waargeneem is, het bewese tuberkulose gehad.

Kardiale kateterisasie was van baie waarde om die diagnose te bevestig, veral vroeg in die ontwikkeling van die beklemmingsbeeld. Die kontrole-kateterisasie-bevindings is veral gebruik om die resultaat na-operatief te beoordeel by die 9 pasiënte wat perikardiëktomie ondergaan het.

Perikardiëktomie vroeg nadat die akute perikarditis na 'n konstriksie oorgaan, het die beste na-operatiewe resultate gelewer. Drie van die 5 pasiënte wat in dié stadium die operasie ondergaan het, het beide klinies en deur objektiewe kateter-bevindings na 'n normale toestand terug gekeer. Die oorblywende 2 het egter binne 24 uur na die operasie skielik beswyk.

Met die 4 pasiënte waar 'n operasie uitgevoer is, op 'n ou bestaande beklemmingstoestand, was daar geen mortaliteit nie. Die resultaat van die operasie was by 3 pasiënte dié van matige verbetering en by die oorblywende pasiënt was daar geen verbetering nie.

CONCLUSIONS AND SUMMARY

The clinical findings is a series of 14 patients of whom 13 had or developed constrictive pericarditis showed great variation. The symptoms and physical findings were largely dependent on the stage to which the pericarditis had progressed and whether the constriction was mostly over the right or the left ventricle.

Of 6 patients who initially presented with pericardial effusion, 5 eventually progressed to a stage of constriction. The remaining patient died before a pattern of constrictive pericarditis had developed.

Tuberculosis could be proved as the etiological factor in 6 of 9 patients where investigations in the form of sputum examinations, pericardial fluid examinations, gland biopsies and pericardial biopsies could be carried out. The remaining 3 in this series showed no definite causation. Four of the 5 patients who were followed through the stage of effusion to constriction, had proven tuberculosis.

Cardiac catheterization was of great value in confirming the diagnosis of constrictive pericarditis, particularly in the early stages of the condition. Control catheterization studies were used to assess the post-operative result in the 9 patients where pericardiectomy had been performed.

Pericardiectomy in the early phase of constrictive pericarditis had the best post-operative results in 3 of the 5 patients who underwent operation at this stage. The remaining 2 patients in this group died suddenly within 24 hours after the operation. In 4 patients where an old well-established constrictive pericarditis had been present, pericardiectomy produced improvement only, judged clinically and by catheterization studies, in three. The remaining patient showed no improvement whatsoever.

Ons bedank graag vir prof. J. K. Bremer. Hy het al die operasies uitgevoer wat in hierdie reeks gedoen was en het ook tydens die Kongres te Pretoria, in Oktober 1955, na aanleiding van hierdie pasiënte, die probleme in verband met die operasie self bespreek.

VERWYSINGS

1. Harvey, A. M. en Whitehill, M. R. (1937): Medicine, **16**, 45.
2. Blalock, A. en Levy, S. E. (1937): J. Thorac. Surg., **7**, 132.
3. Chambliss, J. R., Jaruszewskie, J., Brofman, B. L., Martin, J. F. en Feil, H. (1951): Circulation, **4**, 816.
4. McKusick, V. A. (1952): Bull. Johns Hopk. Hosp., **90**, 27.

5. Andrews, G. W. S., Pickering, G. W. en Sellors, T. H. (1948): Quart. J. Med., **17**, 291.
6. Holman, E. en Willet, F. (1951): J. Amer. Med. Assoc., **146**, 1.
7. Phillips, W. L. (1956): S. Afr. T. Geneesk., **30**, 37.
8. Mortensen, V. en Warburg, E. (1948): Acta med. scand., **131**, 203.
9. Deterling, R. A. en Humphreys, C. H. (1955): Circulation, **12**, 30.
10. Hansen, A. T., Eskildsen, P. en Gotzche, H. (1951): *Ibid.*, **3**, 881.
11. McKusick, V. A. (1952): Bull. Johns Hopk. Hosp., **90**, 3.
12. Eliasch, H., Lagerlöf, H. en Werkö, L. (1950): Nord. méd., **44**, 1128.
13. Yu, P. N. G., Lovejoy, F. W., Joos, H. A., Nye, R. E. en Mahoney, E. B. (1953): Circulation, **7**, 102.
14. Gunnar, R. M., Dillon, R. F., Wallyn, R. J. en Elisberg, E. I. (1955): *Ibid.*, **12**, 827.

SUPPURATIVE PYLEPHLEBITIS OF THE PORTAL VEIN FOLLOWING A MUCOCELE OF THE APPENDIX

H. RUDINSKY, M.B., B.CH. (RAND)*
C. ISAACSON, M.B., B.CH. (RAND)†
J. GOLD, M.B., B.CH. (RAND)‡
Baragwanath Non-European Hospital, Johannesburg

Suppurative pylephlebitis of the portal vein is a comparatively rare condition. The commonest preceding lesion is acute appendicitis. In 44 cases reported by Eliason,[1] acute appendicitis was found in 40, and in 3 of 4 cases described by Koster and Kasman.[2] It is, however, a rare complication of appendicitis, occurring in only 0·5% of cases.[1] Cases have also been reported in association with diseases of the stomach, rectum, pancreas, spleen, gall-bladder and mesenteric lymph nodes.

Rolleston and McNee[3] regarded the following features as being those of major clinical significance: (1) Evidence of primary cause, (2) picture of sepsis (especially rigors and sweats) and (3) evidence of involvement of the liver.

Although a fair number of cases have been reported in Europeans[4,5,6,7] we have not been able to find any reference to a case in an African. At this hospital over a period of 7 years there have been over 180,000 admissions, included in which were 740 cases of appendicitis. No case of suppurative pylephlebitis has however occurred. We therefore wish to record this case in an African patient.

CASE REPORT

An adult African male (Sotho) aged about 68 years, a factory hand, was admitted to this hospital on 11 July 1955, complaining of cough, hiccough and pain in the right chest for 2 weeks.

He had been born in the vicinity of Johannesburg and had never left the environs of the city. Several months before admission he had an attack of pain in the right iliac fossa, but this disappeared after about one week. He also reported an episode of swelling of the left foot in 1951 and some 'chest trouble' in 1953.

Positive findings on admission included elevated temperature (102°F); an injected pharynx; a blood pressure of 100/50 mm. Hg; an enlarged, tender liver, palpable 3½ inches below the right costal margin, with a smooth, firm edge; a firm non-tender enlarged spleen, palpable 1 inch below the left costal margin. There was no tenderness in the right iliac fossa, nor was any mass felt.

There was no clinical jaundice on admission. Laboratory findings showed serum bilirubin 2·7 mg. per 100 c.c. with a positive direct v. d. Bergh reaction; blood proteins 6 g. per 100 c.c. (albumin 2·2, globulin 3·9); alkaline phosphatase 12·6 King-Armstrong units; blood urea 52 mg. per 100 c.c.; haemoglobin 11·6 g. per 100 c.c., with a leucocytosis of 16,500 per c. mm., of which 89% were neutrophils and 11% lymphocytes; malaria smears were negative. The urine showed 1+ bilirubin and 2+ urobilin. Urine and stool examinations for parasites were negative. X-ray studies showed increased striation at both hilar regions and at the right base, with peaking of the right diaphragm, probably due to old pleural thickening. In addition the liver appeared enlarged. Despite the absence of *E. histolytica* in the stools it was felt that the possibility of amoebiasis could not be excluded and the patient was therefore given 1 gr. of emetine daily for 10 days, and penicillin 500,000 units 6-hourly. At the end of 2 weeks there was no improvement in his condition.

Blood chemistry studies on 27 July revealed a slight fall in the serum bilirubin to 0·6 g.% but no other significant change. Serologic tests for typhoid, melitensis and rickettsiae were negative. Rigors became pronounced (temperature ranging from 101° to 103°F), and his condition deteriorated, with loss of appetite and listlessness. Blood cultures were repeatedly sterile. Intravenous therapy (dextrose and saline) was commenced, with the addition of hydro-cortisone as a supportive measure. He was also given 1 g. of intra-muscular streptomycin daily and 200 mg. of isoniazid orally *t.d.s.*

On 8 August he became clinically jaundiced and markedly disorientated (serum bilirubin 3·4 mg.%). Examination of the cerebrospinal fluid was essentially negative and a repeat haemogram still showed a leucocytosis. In a search for pus the liver was needled, but with negative results and a pneumo-peritoneum showed the liver to be completely free of the diaphragm.

The patient continued to deteriorate and died in a semi-comatose condition 5 weeks after admission.

Post-mortem Findings

Peritoneal cavity contained 2 pints of dark-brown fluid.

Bowel. There was marked dilatation of the appendix, which measured 3 inches in length and ½ inch in diameter and on section contained a large quantity of greenish-white mucoid material which compressed and thinned the wall. The features were those of a mucocele. The remainder of the bowel was normal.

Liver. This organ was slightly enlarged (weight 1,700 g.) and had a smooth surface. On section numerous acute abscesses were seen throughout the parenchyma, varying in size from 1 to 5 mm. in diameter and containing greenish-white muco-pus. These abscesses were surrounded by a narrow zone of congested and compressed liver tissue; the surrounding liver-parenchyma appeared normal. The portal vein contained a large septic thrombus loosely adherent to the wall of the vein about 1½ inches from the porta hepatis, and also large quantities of light-green pus. Septic thrombi were present in the superior mesenteric vein, but not in the splenic vein.

Lungs. Both showed severe congestion and oedema.

Microscopic Examination

Appendix. The distended appendix was filled with homogeneous mucinous material. At one point the muscularis was ruptured.

* Medical Registrar.
† Registrar Pathologist 'of South African Institute for Medical Research'.
‡ House Physician.

There was compression and thinning of the wall, with areas of complete loss of epithelium and atrophy of the lymphoid follicles. The subepithelial tissues showed fibrosis, with foci of fatty metaplasia, and were diffusely infiltrated by chronic inflammatory cells in which chains of Gram-positive cocci were observed. The features were those of a chronic obliterative appendicitis with the formation of a mucocele (Fig. 1).

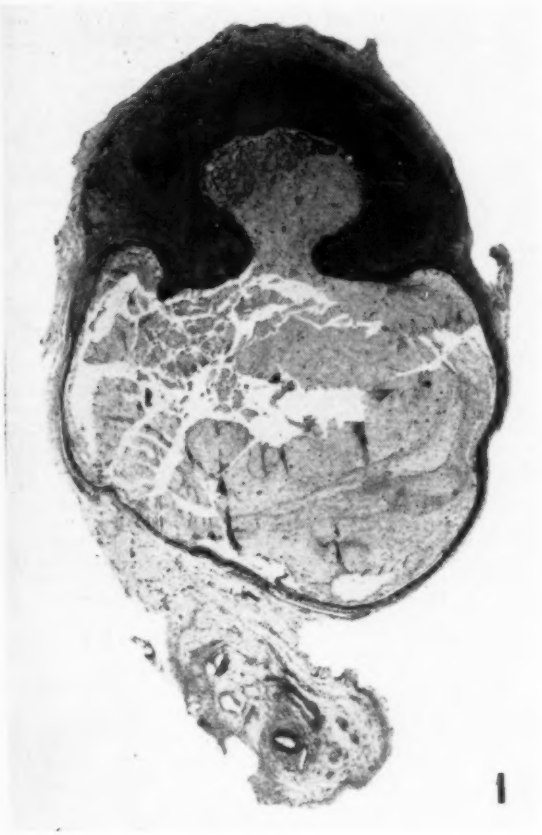


Fig. 1. Section of the appendix, showing the lumen lined by mucus-secreting cells and containing homogeneous mucinous material. The muscularis is ruptured with the formation of a large mucocele lined by a thin layer of fibrous tissue. Haematoxylin and eosin ×7.

Liver. Section of the liver showed the presence of several large acute abscesses lined by degenerating and compressed liver cells and containing necrotic debris densely infiltrated by polymorphs. In some instances it was clear that the abscesses were related to the branches of the portal vein. Chains of Gram-positive cocci were observed in the abscesses. The surrounding liver parenchyma showed marked peri portal haemosiderosis with slight associated fibrosis and chronic inflammatory-cell infiltration (Fig. 2).

Lungs. Section showed the presence of bronchopneumonia, congestion and oedema.

Summary of Post-mortem Findings

1. Chronic obliterative appendicitis with the formation of a mucocele.
2. Suppurative pylephlebitis of the portal vein.
3. Multiple abscesses of the liver.

Fig. 2. Section of the liver showing the presence of a large acute abscess lined by degenerating and compressed liver-cells and containing necrotic debris densely infiltrated by polymorphs. Haematoxylin and eosin ×120.

SUMMARY

A case of suppurative pylephlebitis of the portal vein following a mucocele of the appendix is described in an African patient admitted to the Baragwanath Non-European Hospital.

Acknowledgments are made to Dr. J. D. Allen, Medical Superintendent, Baragwanath non-European Hospital, for permission to publish this case and for the use of hospital records, to Dr. V. H. Wilson, Senior Physician of the hospital for advice and help in the preparation of this paper, and to the photographic department of the South African Institute for Medical Research for the photomicrographs.

REFERENCES

1. Eliason, E. L. (1926): Surg. Gynec. Obstet., **42**, 510.
2. Koster, H. and Kasman, L. P. (1933): Arch. Surg., **27**, 910.
3. Rolleston, H. and McNee, J. W. (1929): *Diseases of the Liver, Gall Bladder and Bile Ducts*, 3rd ed., p. 118. London: MacMillan.
4. Bakst, H. J. and Jeghers, H. (1937): Amer. J. Med. Sci., **193**, 690.
5. Massachusetts General Hospital case record (1953): New Engl. J. Med., **249**, 900.
6. Clark, C. W. and Bunn, P. A. (1933): N.Y. St. J. Med., **53**, 3007.
7. Seife, M. and Lisa, J. R. (1950): Amer. J. Trop. Med., **30**, 769.

RUPTURE OF THE UTERUS*

A. A. LININGTON, M.B., B.CH. (RAND)

Sinoia, Southern Rhodesia

Since 1947, 18 cases of rupture of the uterus during labour have been treated at the Sinoia Native Hospital, all except one case being under the care of the writer. As the treatment given is at variance with that recommended by others, in that repair instead of hysterectomy has been employed in certain instances, it has been decided to report the series in the hope that others may be induced to investigate the matter more fully, with a view to minimizing the profound damage which the condition does to its unfortunate victims.

The *classification* adopted by Beecham, Woodward and Beecham [1] is regarded as the soundest in that they divide their cases into Caesarean and non-Caesarean groups. In each category the term 'spontaneous' is employed to indicate self-engendered ruptures which occur without intervention, whilst the term 'induced' is used to indicate ruptures which are the result of interference, either operative, or from oxytocic or other means employed to hasten delivery.

In the present series there were 2 cases of Caesarean rupture and 16 cases of non-Caesarean rupture, of which 15 were spontaneous and 1 was probably induced.

CAESAREAN RUPTURES

There were 2 cases of rupture of previous Caesarean section scars in this series:

Elina had had 8 previous pregnancies; 6 children had been born alive. She had had a lower-segment operation at the 8th confinement. On admission to hospital, after being in labour for 36 hours, she was found to be in poor condition. The foetal heart could not be heard, and the uterus was tender over the lower segment. The vulva was oedematous. The cervix was fully dilated. The pelvic brim was contracted owing to forward projection of the sacral promontory, the result of osteomalacia (this type of deformity is common amongst African women who have borne many children). The abdomen was opened under local anaethesia, and the previous lower-segment scar was found to have given way. The baby was easily extracted through the opening and the uterus was closed with catgut. The patient made an uninterrupted recovery and was discharged after a hospital stay of 18 days.

In the case of *Jessica* there had been 3 previous pregnancies, all the children being born alive. The last child was delivered by a classical Caesarean section. The patient was admitted to hospital after having been in labour for 24 hours, as a case of ante-partum haemorrhage, and was obviously shocked. Her abdomen was opened under local anasthesia and the uterine scar, which was found to have given way, was repaired with catgut, after trimming of the edges. The patient's recovery was uneventful and she was discharged from hospital 17 days later.

My experience with rupture of previous Caesarean scars is in conformity with that of others, namely that the condition is less serious, is more easily dealt with, and is associated with a lower maternal mortality rate. Thus Munro Kerr and Chasser Moir[2] remarked that 'it is associated with a low maternal mortality'. Whitacre and Fang[3] state 'the conclusion from our experience that in cases of rupture of a Caesarean section scar the mortality rate for mothers is considerably less than in cases of other types of spontaneous rupture' agrees with that of many authors on this subject.

Beecham, Woodward and Beecham[4], in a series of 23 Caesarean ruptures, lost 6, a mortality rate of 26%, which is considerably lower than the death rate in their cases of spontaneous non-Caesarean rupture.

The reasons for the lower mortality figures are that the rupture is more confined, haemorrhage is usually less and repair is simpler. The diagnosis is more easily made, and the patient presents for aid earlier.

RUPTURE OF THE FUNDUS UTERI

There has been only 1 case of rupture of the fundus uteri in this series:

Mangara was admitted to hospital in a condition of shock, after being in labour for 24 hours. The foetal heart could not be heard. The vulva was oedematous. The cervix was fully dilated. The pelvis was contracted. The child was extracted with forceps after perforation of the head. The placenta followed easily. Exploration of the uterus was then carried out manually and a rent in the fundus was found. The abdomen was opened and, to my astonishment, the uterus was found not to be ruptured. However, it was very flaccid, and could not be made to contract and retract firmly. At this stage the patient collapsed and died a few minutes later. Careful examination then revealed a rupture of the fundus, extending to, but not through, the peritoneal surface. The patient had died of haemorrhage. Had an immediate hysterectomy been carried out to prevent this haemorrhage, it is possible that the patient could have been saved.

This type of case, although uncommon, is very important, and demands immediate hysterectomy. There is no other way of controlling the bleeding. The condition should always be borne in mind in cases of post-partum haemorrhage continuing after an intravaneous oxytocic.

SPONTANEOUS RUPTURE OF THE LOWER SEGMENT

There have been 15 cases of spontaneous rupture of the lower uterine segment in this series. Six of these patients died, a mortality rate of 40%.

Kettie was admitted with a history of having been delivered of a still-born child 2 days previously after a labour lasting about 24 hours. Examination of the patient revealed a twin pregnancy, the second twin being dead, and the head presenting in the perineum. The head was perforated, and the baby extracted with forceps. Examination showed a rent of the lower segment and the vaginal vault. The abdomen was opened, and the uterus and vagina were repaired with catgut. The patient died the following day. The cause of the rupture was delay in delivering the second baby.

Elitina, a primigravida, was admitted to hospital in a cold collapsed state, having been in labour for 2 days. After perforation of the head, the baby was extracted with forceps. A rupture of the anterior segment was found. The abdomen was opened. General peritonitis was present. Drainage was instituted, and antibiotics and intravaneous fluids were given. The cause of the rupture was a contracted pelvis. The patient died a few hours later.

*A paper presented at the South African Medical Congress, Pretoria, October, 1955.

Tabitha, who had had 2 previous deliveries, one child having being born alive, was admitted in very poor condition after being in labour for 2 days. At laparotomy the uterus was found to be ruptured, and frank peritonitis with pus was present. The patient died the same day. The cause of the rupture was a contracted pelvis.

Reti had had 3 children, all alive. She gave a history of strong labour pains which suddenly ceased, and on admission had a weak pulse, and no uterine contractions. The abdomen was opened, and a rupture of the lower segment due to a hydrocephalic foetus was found. The uterus was repaired. The patient died the following day, of shock.

Margaret, who had had one previous normal delivery, was admitted to hospital in very poor condition, with an oedematous vulva, and the head on the perineum. The baby was extracted with forceps after perforation of the head. An extensive laceration of the vault of the vagina, and a large rupture of the lower uterine segment, was found. The abdomen was opened, and subtotal hysterectomy was performed. The patient died the following day. The cause of the rupture was a contracted pelvis.

Neddie, a woman who had had 3 previous normal deliveries of live babies, was admitted after a prolonged labour, in poor condition. Examination showed a marked forward protrusion of the sacral promontory. The head was perforated but extraction with forceps was found to be impossible. Version was then performed, and the baby was delivered without difficulty. A complete rupture of the anterior lower segment extending into the vault on the left, was found on inserting the hand into the vagina. Laparotomy confirmed the rupture, and also confirmed that it was not the result of the version, but had occurred some hours previously. The rupture was satisfactorily repaired. The patient died the following day. Had a blood transfusion been available, it is possible that she would have lived.

Nine cases of spontaneous rupture of the lower segment survived.

Mariyana, a primigravida, had a subtotal hysterectomy performed for a rupture of the lower segment, due to a contracted pelvis. She recovered uneventfully, and was discharged after 13 days in hospital.

Dorasi was delivered in 1949 by my locum tenens. She was admitted with the baby's head on the perineum. Forceps delivery failed. Version was then performed and the after-coming head was perforated. A rupture of the uterus was found. The abdomen was opened and the rupture was sutured. The patient recovered and left hospital 43 days later. It is probable that the rupture in this case was the result of the version. It is important to note that in induced rupture, immediate operative repairs will give a reasonably good result.

Jessica, pregnant for the second time, was admitted after being in labour for 3 days. The head was on the perineum, and the baby was extracted with forceps after perforation of the head. The anterior lower segment was found to be ruptured. The abdomen was opened and the rupture was repaired with catgut. The patient left hospital 15 days later. The cause of the rupture was a contracted pelvis.

Biriyoza, a primigravida, had her anterior lower segment repaired after a complete rupture, and left hospital 12 days later. She, too, was a case of contracted pelvis.

Regina was admitted to hospital in June 1954 as a case of ante-partum haemorrhage. She had had 2 previous deliveries. One child had been born alive, the other had been still-born. Labour had commenced the morning before admission. Just after midnight, she maintained, she began bleeding from the vagina. She arrived at hospital next morning, still bleeding *per vaginam*, and in a somewhat anaemic state. Laparotomy under local anasthesia revealed a rupture of the lower uterine segment, through which the head was protruding. The baby and placenta were removed through the rupture, which was then repaired with catgut. The patient was discharged from hospital 17 days later. She was next seen in December 1954, when she was found to be pregnant, and was then seen regularly until April 1955. She next appeared in June, with a small baby in her arms, and stated that labour had come on in May, and that the baby had been born quite easily. On examination, the uterus was found to be normal and no sign of the previous rupture could be found. The baby was small, which accounted for the fact that it had been born normally, for the mother's pelvis is small.

Mwijawo, who had had 4 previous children, was admitted after a prolonged labour, in poor condition, with the baby's head on the perineum. The head was perforated and the baby was extracted with forceps. The rupture in the lower segment, extending into the vaginal vault on the right side, was repaired with catgut *via* the abdomen. The patient left hospital after 28 days well apart from a bilateral peroneal palsy. The cause of the rupture in her case was a partially contracted pelvis.

Sophia, who had had five normal deliveries, was admitted with a history typical of rupture of the uterus, namely strong uterine contractions which ceased suddenly. She was found to be shocked, her abdomen was tender and her pulse was weak. The abdomen was opened. The lower uterine segment was found to be ruptured, and a hydro-cephalic head was found to have been extruded through the rupture. The uterus was repaired with catgut after the baby and placenta had been removed. The patient recovered uneventfully and left hospital after 14 days.

Emeria, pregnant for the 9th time was admitted after she had been in labour for 24 hours, with a shoulder presentation. Vaginal examination confirmed a rupture of the anterior segment. The abdomen was opened, the child was removed, and hysterectomy was performed. The patient left hospital 13 days later alive and well.

Cecilia, a primigravida, was admitted with a hand presenting *per vaginam*, having been in labour for 2 days. The foetus being obviously dead, the arm was amputated, and the baby was delivered, as a breech after internal version. The lower uterine segment was found to be ruptured on vaginal examination; the abdomen was then opened and the rupture was sutured. The rupture was not the result of the version, but had been there for some while, as could easily be seen by the condition of the edges of the wound. The patient, after a stormy passage, left hospital 51 days later.

Of the 9 cases of spontaneous rupture of the lower segment who recovered, the 2 treated by hysterectomy both did well, and of the 7 treated by suture 4 did well and 3 went septic but recovered.

CLINICAL FEATURES

The clinical features of a ruptured uterus are not always clear cut. One sometimes gets the typical history of a violent labour ceasing suddenly, followed by shock and collapse and pallor. On other occasions the history is not so clear, and shock is not always a feature of the case. Haemorrhage may also be very slight.

The diagnosis is not always easy. The features that should make one suspicious are excessive abnormal discomfort and marked tenderness over the lower segment. The fact that the foetal parts are easily felt does not always connote rupture. This experience has also been that of Munro Kerr and Chassar Moir.[5]

It is regarded as important to explore the vagina and uterus manually after any difficult and prolonged labour, to make certain that rupture has not occurred (Munro Kerr and Chassar Moir[6]). Thus I was called in consultation recently to see a woman who had given birth to twins, the second being delivered by version and breech extraction. The accoucher did not suspect rupture at the time but, when I saw her 2 days later, she was very anaemic and had a large tender mass in the left pelvis and flank. She had obviously had a haemorrhage into the broad ligament. She was treated by antibiotics and recovered, the haematoma resolving.

Analysis of Cases

This series serves to confirm the experience of others that rupture of the uterus is commoner in multipara

then primigravida. Thus Beecham, Woodward and Beecham[7] and Whiteacre and Fang[8] had only 2 woman in their first pregnancy out of 44. Another notable feature is that the fact of previous normal deliveries is no guarantee that rupture may not occur at a subsequent pregnancy, especially in the African, in whom osteomalacia seems to be not uncommon.

The commonest cause of the rupture in this series of cases was an inadequate maternal pelvis, this occurring in 11 cases. This conforms to the experience of others.

Malpresentation of the foetus was responsible for 2 cases, one being a shoulder, the other a hand. This, too, agrees with Munro Kerr and Chassar Moir[9] who find malpresentation of the child the second most important cause of rupture of the uterus, and shoulder presentation the malpresentation most commonly responsible.

Hydrocephalus was the cause of rupture in 2 cases. This agrees with the experience of others, who have found hydrocephalus to be a common and important cause of rupture.

Twin pregnancy was responsible for one case of rupture, through prolonged delay in the delivery of the second twin.

The site of the rupture in all except one case was the lower uterine segment. This is in conformity with the experience of others. The reason would appear to be that the taking up of the lower segment thins it excessively, and this plus the pressure of the foetal head upon the symphysis weakens the lower segment till it ruptures.

Treatment

An important factor making for success in treatment of this highly fatal condition is early diagnosis. Delay prejudices the prospects of recovery. Thus in 2 of the fatal cases the patients were already suffering from frank peritonitis before arriving at hospital for treatment. Delay also increases shock and permits of greater haemorrhage before treatment.

Adequate quantities of blood are indeed most essential to satisfactory treatment. Unfortunately, in none of our cases were we able to obtain donors. Had blood been available, it is probable that 4 deaths might have been prevented.

Chemotherapy and intravaneous fluids were given to all cases, and contributed very materially to the recovery of those that survived.

The type of operation performed upon the uterus depends upon the case. Thus, in elderly women who have had many children, hysterectomy is the procedure of choice. In the young woman who obviously would like to have more children, conservation of the uterus has much to commend it. In 3 cases hysterectomy was performed. One of these died, the cause of death being shock. This patient was in poor condition before operation, and should have been given a blocd transfusion.

In 2 cases nothing could be done except drain the peritoneal cavity because of peritonitis; both cases died.

In 10 cases the uterus was sutured. Three of these died—a mortality rate of 30%. This compares very favourably with the figures for treatment of spontaneous non-Caesarean rupture by hysterectomy; e.g., Beecham, Woodward and Beecham[10] had a 44·8% mortality rate for their cases treated by hysterectomy.

CONCLUSION

These cases are reported as a plea for conservation of the uterus except in elderly multiparae in the treatment of this tragic condition. Ten cases had their uterus repaired, 3 dying, a mortality rate of 30%. This compares very favourably with the figures for hysterectomy. Furthermore, as the site of rupture is similar to the site of the lower segment incision, it should be possible to repair it satisfactorily and the scar should stand up to subsequent pregnancies. This is confirmed in the case of Regina, who had a normal delivery 11 months after repair of her rupture.

The final and most important reason for conservation of the uterus, lies in the fact that a Native woman without a uterus is valueless to the male. The husband will divorce her sooner or later on one pretext or another. Her plight is pitiful, and she becomes a social out-cast.[11]

My thanks are due to the Director of Medical Services for Southern Rhodesia for permission to present this paper.

REFERENCES

1. Beecham, Woodward and Beecham (1951): Amer. J. Obstet. Gynec., **61**. 824.
2. Kerr, J. M. M. and Moir, J. C. (1949): *Operative Obstetrics*, p. 838. London: Ballière, Tindall and Co.
3. Whiteacre, F. E. and Fang, L. Y. (1942): Arch. Surg., **45**, 229.
4. Beecham Woodward and Beecham (1951): *Op., cit.*, p. 830.
5. Kerr, J. M. M. and Moir, J. C. (1949): *Op., cit.*, p. 814.
6. Kerr, J. M. M. and Moir, J. C. (1949): *Op., cit.*, p. 835.
7. Beecham, Woodward and Beecham (1951): *Op., cit.*, p. 826.
8. Whiteacre, F. E. and Fang, L. Y. (1942): *Op., cit.*, p. 225.
9. Kerr, J. M. M. and Moir, J. C. (1949): *Op., cit.*, p. 830.
10. Beecham, Woodward and Beecham (1951): *Op., cit.*, p. 830.
11. Wood, R. C. H,. Native Commissioner, Sinoia. Private communication.

BOOKS RECEIVED : BOEKE ONTVANG

Fifth Annual Report on Stress—1955/56. Edited by Hans Selye and Gunnar Heuser. Pp. 815. New York: MD Publications, Inc. 1956.

Principles of Human Physiology. (Twelth Edition.) By Sir Charles Lovatt Evans, D.Sc., F.R.C.P., F.R.S., LL.D. (Birmingham), with chapters on the Special Senses by H. Hartridge, M.A., M.D., Sc.D., F.R.S. Pp. xii + 1233. Illustrations 721—some in colour. 65s. net. London: J. & A. Churchill Ltd. 1956.

The Practice of Medicine. Edited by John S. Richardson, M.V.O., M.A., M.D. (Cantab.), F.R.C.P. Pp. viii + 1075. 86 Illustrations. 40s. net. London: J. & A. Churchill Ltd. 1956.

Diagnostiek en Behandeling van Stress Incontinence bij de Vrouw (Proefschrift.) By Jannes Janssens. Pp. 156. Groningen: Van Gorcum & Comp. N.V. 1956.

Quantitatief Serumeiwitonderzoek Bij Zwangerschapstoxaemieen Met Behulp van de Papierelectrophorese. By Adolf Bronsema. Pp. 136. Enchede: Bronsema's Drukkerij N.V. 1956.

The Year Book of the Eye, Ear, Nose and Throat. (1955-1956 *Year Book Series*.) Edited by Derrick Vail, B.A., M.D., D.Oph. (Oxon.), F.A.C.S., F.R.C.S. (Hon.) and John R. Lindsay, M.D. Pp. 471. 86.50. Chicago: The Year Book Publishers, Inc. 1956.

THE DIFFICULTIES AND DANGERS OF CARDIOVASCULAR SURGERY WITH AN ARRESTED CIRCULATION*

A Preliminary Communication

PAUL MARCHAND, CH.M. (RAND), F.R.C.S.
and
J. C. ALLAN, CH.M. (RAND), F.R.C.S. (EDIN.)

Thoracic Surgery Unit and Department of Surgery, University of the Witwatersrand, Johannesburg

Within the space of 10 years, surgery for stenosis of mitral, pulmonary and aortic valves has become commonplace. With increasing familiarity with the vagaries and difficulties of this type of surgery the surgeon, teamed with the anaesthetist and cardiologist, has so reduced the dangers of operation that today the risks are comparable with those of any other accepted major surgical procedure. These cardiac operations are however restricted to stenotic lesions, which are corrected by methods such as valvotomy or shunt procedures that do not require direct visualization of the lesion. During the past 3 or 4 years attention has become focussed upon a large group of cardiac diseases that could be treated by open cardiotomy. This procedure necessitates the arrest of the circulation so that the operative field may be clearly visualized, and carries obvious anoxic dangers to the heart, brain, spinal cord, liver and kidneys. Many operations have already been successfully performed throughout the world under conditions of hypothermia, but the scope of the operations are seriously limited by time. It is generally agreed that at body temperatures of 27°C the surgeon has from 8 to 10 minutes of comparative safety in which to complete his manipulations.

In the Department of Surgery of the University of the Witwatersrand, in common with other centres in many parts of the world, experimental work is in progress designed towards lessening the dangers of present techniques and extending the time of safe open cardiotomy.

The Indications for Operation with an Arrested Circulation

These include such intracardiac anomalies as interatrial septal defect, intervertricular defect, infundibular stenosis, and myxoma of auricle. The only extracardiac anomalies which could possibly justify the procedure at the present time are those which imminently jeopardize life and which cannot be dealt with in any other way. These are aorto-pulmonary septal defects and certain aneurisms of the thoracic aorta.

EXPERIMENTAL WORK

Essentially the problems of the arrested circulation are (*a*) the conservation of the integrity of the brain, spinal cord, liver and kidneys, and (*b*) the conservation of cardiac function and the application of efficient methods of restoring the heart's action should ventricular fibrillation supervene.

(a) The Integrity of the Brain, Spinal Cord, Kidney and Liver

There are two possible approaches to this problem—either a supply of oxygenated blood must be maintained or the demands for oxygen should be so reduced as to make it possible to exclude the blood supply to the brain, spinal cord, kidneys and liver for a period of some 20 minutes without producing irreversible changes.

The first method entails the development of an efficient extracorporeal heart-lung machine or some efficient form of cross-perfusion in which a donor supplies oxygenated blood to the brain, spinal cord, kidneys and liver of the individual being operated on. (*The problems presented by these methods were presented by Dr. Vernon Wilson—(see page 000 of this issue).*

The second possibility may be achieved by lowering the body temperature to levels where the oxygen uptake is so reduced that the brain and spinal cord may be depleted of a fresh source of oxygen for appreciably longer periods than would otherwise be possible and yet survive intact. A series of experiments on dogs, designed to test the efficiency of hypothermia, have been performed in the Department of Surgery, University of the Witwatersrand and it has been established that at normal temperatures the dog can endure total circulatory arrest for periods up to 8-10 minutes and recover completely. Circulatory arrest lasting between 10 and 15 minutes always produces changes as evidenced by coma, paraplegia etc., which may however be temporary. Beyond 15 minutes profound irreversible damage results.

Similar experiments have been repeated at varying degrees of hypothermia and it is established that at temperatures below which 28°C the brain and spinal cord survive total circulatory arrest for periods of up to 15 minutes.

Hypothermia is not without danger. Changes have been produced in the kidneys and liver at low body-temperature. These changes would appear to be caused by the hypothermia itself and may well account for deaths which occur after re-warming has been successfully accomplished.[1]

(b) The Conservation of Cardiac Function

In order to operate upon the interior of the heart it is necessary to empty the heart of blood so that the operation field shall be clearly visible. It is possible to achieve this by clamping the superior vena cava, inferior vena cava and azygos veins, whilst the blood entering the heart *via* the coronary sinus can be removed by suction. If this procedure is carried out without any ancillary aid the heart may continue beating for many minutes, but recovery of function after the release of the inlet clamps is most unusual if the isolation has continued for more than a few minutes. We have established that the period of time during which clamping can be safely applied to the otherwise normal dog heart is directly dependent upon the number of times the heart beats once the source of oxygenated blood has been removed. On an average 800-1,200 beats represent the limit of tolerance of the anoxic heart and beyond this recovery is most unusual. Therefore in the presence of bradycardia comparatively long periods of occlusion are possible, whereas with tachycardia the safe period of cardiac isolation is diminished.

Under conditions of hypothermia the heart rate is considerably slowed and fairly prolonged periods of isolation are tolerated by the heart. At 27°C, however, the heart rate is seldom reduced to below 80 beats per minute and theoretically this rate will only allow a safe period of about 10 minutes of occlusion. At lower temperatures the heart rate is still further slowed, but the incidence of deaths due to cooling and the irritability of the heart with the tendency to ventricular fibrilation on manipulation progressively increases with lower temperatures. Ideally, therefore, a temperature of 27°C to protect the brain and spinal cord, together with some method of slowing the heart further, would seem to be required. This ideal has been accomplished experimentally by stimulating the right vagus nerve in the neck; but the possibility of permanent injury to the nerve and possible side-effects on the gastro-intestinal tract are theoretical objections to its use in humans. Accordingly slowing of the heart has also been attempted by other means and perfusion of the coronary vessels with acetylcholine has been used successfully.

The paper was illustrated by a film showing the various experiments which the authors had performed.

CONCLUSION

Open cardiotomy is already a practical procedure under conditions of hypothermia. The time restriction is not due to adverse effects upon neural tissue, for these will survive much longer than the heart at 27°C. If hypothermia is combined with slowing of the heart it is possible to arrest the circulation for appreciably longer periods than with hypothermia alone.

1. Knocker, P. (1955): Lancet, **2**, 837.

* Address given at the South African Medical Congress, Pretoria, October 1955.

RADIO-ACTIVE COBALT BOMBS AND SUPER-VOLTAGE RADIOTHERAPY FOR SOUTH AFRICA

MAURICE WEINBREN, B.Sc., M.R.C.S., L.R.C.P., F.F.R., D.M.R.E.

Johannesburg

The publicity given to the unfortunate child with the osteogenic sarcoma who was sent overseas by public subscription has naturally raised the question in the lay press why radio-active cobalt bombs and super-voltage radiotherapy are not available in South Africa.

In the first place, it ought to be realized that there is nothing specific about the radio-active cobalt rays. For the purpose of cancer treatment their wave lengths are equivalent to those of the 2½-million-volt X-ray machine or, for that matter, of the super-voltage machines ranging up to 8 million volts or more. Radio-active cobalt is not taken up by osteogenic sarcomata or other cancers in the manner radio-active iodine is taken up by the thyroid, and does not cure osteogenic sarcomata.

It is stated by Sir Stanford Cade that a few cases who had been irradiated either with the radium bomb or the 2-million-volt machine survived longer than the average. There is no specific difference in the effect of the wave lengths from the radium bomb, the radio-active cobalt bomb and the 2-million-volt machine. Sir Stanford Cade has had long experience of the treatment of these osteogenic sarcomata and, after the installation of the 2-million-volt machine at the Westminster Hospital in 1951, he started to treat a group of cases with it. As one would expect, these cases have been very carefully documented and followed up. In his latest paper on the subject, published only a few months ago (Cade S. 1955)[1] Sir Stanford Cade pointed out that 80% of the cases die within 2 years irrespective of the method of treatment, 91% within 3 years, and 96% within 4 years; and that only 4% have lived longer than 4 years, dying in the 5th and 19th year. Only 2 out of 85 cases treated between 1925 and 1950 with teleradium have survived (16 and 30 years respectively). Of the other 10 who survived over 6 years, 8 had some form of surgery also.

DIFFICULTIES IN SOUTH AFRICA

I do not propose to discuss the treatment of osteogenic sarcoma here, but to draw attention to the difficulties in installing large radio-active cobalt bombs or super-voltage therapy in South Africa. There are bombs of the 60-curie type at several British hospitals, but there is only one large 1,000-curie bomb. It is of the rotating type and is installed at the Mount Vernon Hospital, London. It was presented to Sir Stanford Cade and Professor Windeyer by a philanthropic Canadian for the British Empire Cancer Campaign and was installed at the end of 1953.[5] This is the first bomb of its kind in Europe.

There are certain inherent difficulties in the installation of radio-active cobalt bombs or super-voltage apparatus such as the 2-million-volt electrostatic generator or the linear accelerators of the 4-8 million volt range. Some of the difficulties are common to all these types of apparatus:

Heavy Expense

A radio-active cobalt unit of the Mount Vernon type would cost somewhere in the region of £25,000 to £30,000 when installed in South Africa. There are smaller radio-active cobalt bombs of the 60-curie range at several English hospitals, but as Sir Stanford Cade's name has been mentioned in relation to this particular case, presumably the agitation for an installation in South Africa refers to the Mount Vernon type. The X-ray plants such as the 2-million-volt electrostatic unit which is made in the United States, or the linear accelerators which are made in Great Britain also cost in the region of £30,000 now. (Before devaluation, the 2-million-volt unit in Boston cost £18,000.)

It is not generally known, and in justice to the late Mr. A. S. Hersov it ought to be mentioned, that, in 1947, he authorized me to buy a 2-million-volt unit for use in Johannesburg. The order was actually placed through the Anglo-Transvaal offices in New York with the High Voltage Engineering Corporation in Boston, an option being taken for 3 months pending investigation whether suitable premises and staff could be found to operate the unit. Neither suitable premises nor the necessary staff could be obtained, and so the order was cancelled.

The *housing*, i.e. the buildings required, with sufficient protection and the accessory offices to run a unit of this description, would cost more than the unit itself.

The *running costs* of these units is very high. In the cobalt unit there is the difficulty of replacing the radio-active cobalt at intervals of, say, 3-4 years. The half-life of cobalt is 5·3 years, and therefore the radio-active cobalt has to be re-activated, or a new supply of it obtained, every 3-4 years. Now radio-active cobalt in large quantities up to 1,000 curies may take over a year to activate in the atomic pile and cannot just be sent over without adequate protection.[6] It would be necessary to send from overseas a complete new head containing the cobalt, which would have to be exchanged for the old head. This is by no means a simple matter. I observed the 60-curie cobalt unit being installed at University College Hospital, London, and it required a considerable staff of engineers to do it. The cost of operating these cobalt or super-voltage units does not consist of the actual wear and tear of the moving parts only, but includes the salaries and maintenance of engineers and physicists. A single physicist could not keep a linear accelerator functioning, or even a radio-active cobalt unit.

Expert Staff

This brings us to the greatest difficulty of all, and that is the expert staff required to keep one of these units operating and to work out the physical data and determine the doses which are delivered by these units at certain depths under certain conditions for each patient. To operate the unit without such skilled staff exposes the patient and the staff to great danger.

In Great Britain some of the larger hospitals actually employ more physicists than radiotherapists in their departments. The Cancer Hospital, the Middlesex Hospital and other hospitals in London have at least as many physicists as radiotherapists. Even with these large numbers of physicists at the hospitals and the manufacturers close at hand, it is no simple matter to keep these units functioning. The fact that so many physicists are required makes it impossible to work out exactly the cost of operating one of these machines. The physicists are not on one job all the time. There is research work to be done, and when there is a breakdown they are all needed in the repairing and calibrating of the machine. It took some 6 months to erect and calibrate the radio-active cobalt unit at the Mount Vernon Hospital, where a group of physicists are employed.

South Africa missed being the first country outside the United States to have a 2-million volt machine because we could not get the staff together from here or abroad to operate the machine. This difficulty still exists in South Africa and, in fact, it has become worse because in the interval South Africa has lost more expert physicists than it has gained. With the opening of the atomic plants in England and America, the opportunities abroad for research work and appointments are much greater than in South Africa. The C.S.I.R. for instance, has lost 3 physicists who were in charge of the isotope work; in the last 3-4 years 2 of them have found posts in Great Britain and one in Canada. I drew attention to this aspect of the matter at the Medical Congress in Pretoria in 1948.[2] This difficulty of getting skilled staff is universal, and exists in the United States and in Great Britain; but it is much greater here. Some of the hospitals and private radiologists in South Africa have tried for years to get physicists and have failed to do so.

Because of the lack of facilities both in skilled engineers and equipment, it has not, for instance, proved possible to check the output of an ordinary high-voltage X-ray diagnostic unit in terms of milliamps and kilovoltages. None of the firms selling X-ray equipment, and not even the Bureau of Standards, have the facilities for checking the claims of manufacturers concerning the capacity of their X-ray apparatus.

How under these conditions could one expect to erect and maintain radio-active cobalt bombs and super-voltage X-ray therapy apparatus? The people who give press interviews and

advice that this unit should be installed at one place and that the Cancer Association should put up units at other places, are obviously not conversant with inherent difficulties. Besides, radio-active cobalt is not so plentiful that a unit can be obtained immediately by merely ordering one. As I have said, it takes over a year to activate the cobalt in a pile of a certain strength. The question still remains, what should we gain at present even if all these difficulties were overcome and one or more units were installed in South Africa?

THE LIMITATIONS OF RADIOTHERAPY

The profession and the public may have been misled by the publicity in the lay press. The term 'cobalt bomb' sounds very powerful and effective. It immediately brings to mind the terrific power of H bombs and uranium bombs. The cobalt bomb would therefore, in the mind of the public, have the power to disrupt and destroy all cancers. This, unfortunately, is very far from the truth, whether one is dealing with the radio-active cobalt bomb or the much more powerful X-ray generators of the linear accelator type which go up to 8 million and 12 million volts and higher. Attention has repeatedly been drawn to the fact that, as a primary radical form of cancer therapy, radiation is disappointing.[2,4]

It is only in certain accessible sites and with certain radio-sensitive tumours that radiotherapy plays a part in the sense of successful radical treatment.[7] It plays a much greater part in palliative treatment, but the public think in terms of cures and not of palliation. What, for instance, can radiation do, no matter whether it is 200 KV or 20 million KV, for cancer of the alimentary tract, excluding limited cancers of the oesophagus? No radiation will cure cancer of the stomach or cancer of the colon or rectum. The only method of curing these cancers is by surgery. What can radiation do in the sense of a radical cure in carcinoma of the lung? Here, too, the only chance of a cure is an operation at a very early stage. What can radiation do in cancers of the genito-urinary system? Cancers of the kidney, when operable, have to be removed; so do cancers of the ureters. Cancer of the bladder does respond under certain conditions to local radiation-therapy with radium; it does not require super-voltage therapy for the radical treatment. Moreover, Ralston Paterson, in answer to a question during his recent visit here, admitted that with super-voltage therapy at Manchester he has observed more rectal reactions than formerly when treating carcinomas of the bladder. Cancer of the brain and the spinal cord when operable have, with very few exceptions, to be treated by surgery and not by radiation.

Cancer of the skin does not require super-voltage therapy. It would be completely out of place for epitheliomata and rodent ulcers. Incidentally, it does not matter how high the voltage, how big the machine, a melanoma will not be cured by radiation, with the exception of a very few radio-sensitive melanomas—and these will respond to conventional radiotherapy. It is only in accessible cancers such as those of the skin, the mouth, the tongue, the larynx and the pharynx that radiation therapy plays a radical role. While it is true that super-voltage therapy under suitable conditions with suitable staff makes the treatment easier and less trying for the patient, it does not hold out any great promise of cures in regions where conventional therapy does not cure. Its main application at present is again in the field of palliative therapy. Here it plays its greatest role.

It must be remembered that 1-million-volt therapy has been practised at Barts for 20 years, and quite a number of 1-million-volt therapy units have been in operation in the United States for many years, and no great superiority from the radical-cure point of view has been demonstrated with these units over the conventional 200-250 KV unit. It must also be remembered that the difference in biological efficiency between the units of 1-2 million volts and the conventional radiotherapy at 250 KV is greater than that between the 8-million-volt unit and the 2-million-volt unit; so that no very startling results can be anticipated theoretically even from the 8-million-volt accelerators.[8]

Cancer of the skeletal system such as osteogenic sarcoma is not cured by radiotherapy even though out of 85 cases Sir Stanford Cade has had 2 cases which have survived 16 and 30 years, and 10 cases 6 years and over, mostly with combined radiation and surgery.

CHOICE OF SUPER-VOLTAGE UNIT

Finally, if South Africa is to get a super-voltage unit, what type is it to be? Are we to get a radio-active cobalt unit, a 2-million-volt X-ray machine, a linear accelerator of the 8-million-volt type, a betatron of the 20-million type, a synchrotron of higher voltages still, or the newer isotope-bombs which are being developed such as the Cesium of 33 years half-life.

Nobody can answer these questions. If it could be answered—if the superiority of one type over the others had been demonstrated,— the large hospitals in Great Britain would not have a multiplicity of types. The Royal Marsden Hospital (Cancer Hospital) in London, for instance, besides various types of rotation therapy of the 250 KV range, has a betatron, a 4-million-volt linear accelerator, a 2-million-volt X-ray machine and a radio-active cobalt bomb of 1,000 curies. The Middlesex Hospital, which is associated with the Mount Vernon Hospital, Radiotherapy Department, has a 10-gram radium bomb. At the Postgraduate Hospital and Barts, linear accelerators have been installed. In Manchester, a linear accelerator and a betatron of the 20-million-volt type were installed at the same time in 1953. In Edinburgh, Professor McWhirter dispensed with his 10-gramme radium bomb, and instead has installed in the new Cancer Centre a rotating type of 250 KV X-ray therapy and a linear accelerator.

It is right and proper that these large institutions with all the facilities of finance and staff should have this variety of apparatus for research work. Very few clinical reports have been published so far because some years must elapse before any results can be demonstrated, and most of the journals dealing with this subject publish articles on the physics of super-voltage therapy and not the clinical aspect. The first 5 articles in the latest British Journal of Radiology (April 1956) are devoted to the physical factors and not to the clinical results of super-voltage therapy and radio-active cobalt therapy. The best type of super-voltage unit or bomb unit from the clinical aspects has not yet been demonstrated. As we have neither the financial facilities nor the personnel, what would be the use of installing super-voltage radiation apparatus in South Africa at present? If and when the superiority as far as cures are concerned of one type of super-voltage therapy over the others is demonstrated, then the financial obstacles will fall away, for obviously if these machines will cure cancer, the money will have to be found. The only difficulty remaining then will be that of personnel—the greatest difficulty of all, and one which will not be easily overcome.

PRACTICAL PROPOSALS

In spite of the clamour for super-voltage therapy, it is suggested that greater facilities for X-ray therapy of the conventional type, i.e., up to 250 KV, should be provided. The expense of providing these units is not great, and radiotherapists can use these machines (unless they are of the rotating type) without the constant attendance of physicists. The rotating-type machine, even of only 250 KV, does require the constant collaboration of skilled physicists. The use of such machines where the help of physicists is not constantly available, is a source of danger to the patient; I have seen some disastrous results in various parts of the world from the use of these machines even when physicists were available. The risk to the patient and staff with super-voltage machines is still greater if they are not properly staffed.

The place of radiotherapy in the treatment of malignant disease and benign conditions, with the standard 200-250 KV, is well established. Nevertheless, hospitals exist, and are at present being built, in populous areas without X-ray therapy facilities; yet it would be a simple matter to staff X-ray therapy departments in these hospitals with radiotherapists who are in private practice in the neighbourhood.

Radiotherapy should be brought to the patient as far as it is reasonably possible where the size of population makes it feasible and reasonably economical, and not the patient made to travel every day long distances to X-ray departments. Many patients avoid X-ray treatment because of these difficulties.

In combined treatment, i.e. surgery and radiotherapy, as for instance in carcinoma of the breast, the more important part of the treatment is the surgery. Surgeons visit and operate at hospitals other than the main hospitals, and yet when it comes to, X-ray therapy there is no provision there and the patient is compelled to travel sometimes many miles backwards and forwards daily

for perhaps 6 weeks for X-ray treatment. The result is that many patients either attend irregularly or do not attend at all. If skilled surgery can be done at local hospitals, why cannot radiotherapy be done at the same hospitals, provided it is economically possible?

REFERENCES

1. Cade, S. (1955): J. Roy. Coll. Surg. Edinb., **1**, 79.
2. Weinbren, M. (1949): S. Afr. Med. J., **23**, 566 and 600.
3. Weinbren, M., Henning, A. J. and Cones D. M. T. (1955): Medical Proceedings, **1**, 28.
4. *Idem* (1955): Ibid., **1**, 193.
5. Jones, D. E. A., Gregory, C. and Birchall, I. (1956): Brit. J. Radiol., **29**, 196.
6. Lanzie, L. H., Davison, D. B. and Raine, W. J. (1955): Amer. J. Roentgenol. **74**, 898.
7. Weinbren, M., Cones, D. M. T. and Henning, A. J. H. (1955): Medical Proceedings, **1**, 116.
8. Morrison, R., Newbery, G. R. and Deeley, T. J. (1956): Brit. J. Radiol., **29**, 177.

OFFICIAL ANNOUNCEMENTS : AMPTELIKE AANKONDIGINGS

APPOINTMENT OF EDITOR

Applications are invited for the post of Editor of the *South African Medical Journal*. Applicants must be registered medical practitioners having knowledge and experience of medical journalism. A knowledge of languages will be a recommendation. The salary attaching to the post is on the scale £1,800 × 60—2,400, plus cost of living allowance of £352 for married men and £176 16s. 0d. for unmarried persons. (£100 of this allowance will be consolidated for pension purposes). The commencing notch will be according to experience, at the discretion of the Federal Council.

In addition to the Association's official *Journal*, the successful applicant will be required to edit the quarterly '*South African Journal of Laboratory and Clinical Medicine*'. He will also be required to join the Association's Superannuation Fund.

Applications, together with testimonials and a certificate of health, should be addressed to the undersigned to reach him before 31 August 1956.

A. H. Tonkin
Secretary

Medical House
35 Wale Street
Cape Town
19 May 1956

AANSTELLING VAN REDAKTEUR

Aansoeke word ingewag vir die betrekking van Redakteur van die *Suid-Afrikaanse Tydskrif vir Geneeskunde*. Applikante moet geregistreerde geneeshere wees met kennis en ondervinding van die geneeskundige joernalistiek. 'n Kennis van tale sal 'n aanbeveling wees. Die salaris aan die pos verbonde is op die skaal £1,800 × 60—2,400, plus 'n duurtetoeslag van £352 vir getroude mans en £176 16s. 0d. vir ongetroude persone. (£100 van hierdie toeslag sal vir pensioendoeleindes by die salaris gekonsolideer word.) Die beginsalaris sal na goeddunke van die Federale Raad met inagneming van vorige ondervinding vasgestel word.

Die applikant sal verwag word om benewens die redaksie van die Vereniging se amptelike Tydskrif ook dié van die kwartaalblad '*Suid-Afrikaanse Geneeskundige Tydskrif vir Laboratoriumen Kliniekwerk*' op hom te neem. Hy sal ook by die Vereniging se pensioenefonds moet aansluit.

Aansoeke, vergesel van getuigskrifte en 'n gesondheidsertifikaat, moet aan die ondergetekende gerig word om hom vóór 31 Augustus 1956 te bereik.

A. H. Tonkin
Sekretaris

Mediese Huis
Waalstraat 35
Kaapstad
19 Mei 1956

APPOINTMENT OF ASSISTANT SECRETARY

Applications are invited from bilingual, registered medical practitioners for the post of Assistant Secretary of the Medical Association of South Africa. Although the successful applicant may be required to work in the Transvaal, it is likely that he will be expected to spend some time initially at the Association's Head Office in Cape Town.

The salary attaching to the post is on the scale £1,250 × 50—1,750, plus cost of living allowance of £352 for married men and £176 16s. 0d. for unmarried persons. (£100 of this allowance will be consolidated for pension purposes). The commencing notch will be according to experience and will be determined by the Federal Council. The successful applicant will be required to join the Association's Superannuation Fund.

Applications, together with testimonials and a certificate of health, must reach the undersigned on or before 31 July 1956.

A. H. Tonkin
Secretary

Medical House
35 Wale Street
Cape Town
19 May 1956

AANSTELLING VAN ASSISTENT-SEKRETARIS

Aansoeke word ingewag van tweetalige geregistreerde geneeshere vir die betrekking van Assistent-Sekretaris van die Mediese Vereniging van Suid-Afrika. Alhoewel dit van die suksesvolle applikant vereis kan word om in die Transvaal te werk, sal hy waarskynlik verwag word om voorlopig 'n sekere tydperk by die Hoofkantoor van die Vereniging te Kaapstad deur te bring.

Die salaris aan die pos verbonde is op die skaal £1,250 × 50—1,750, plus 'n duurtetoeslag van £352 vir getroude mans en £176 16s. 0d. vir ongetroude persone. (£100 van hierdie toeslag sal vir pensioendoeleindes by die salaris gekonsolideer word.) Die aanvangskerf sal volgens ondervinding wees en sal deur die Federale Raad bepaal word. Van die suksesvolle applikant sal verlang word om by die Vereniging se pensioenfonds aan te sluit.

Aansoeke vergesel van getuigskrifte en 'n gesondheidsertifikaat moet die ondergetekende vóór of op 31 Julie 1956 bereik.

A. H. Tonkin
Sekretaris

Mediese Huis
Waalstraat 35
Kaapstad
19 Mei 1956

RESEARCH INTO THE CAUSES OF DEATH ASSOCIATED WITH SURGICAL OPERATIONS

Following is a copy of a letter (Appendices omitted), dated April 1956, from the Department of Anaesthesia, P.O. Box 667, Pretoria, which Dr. O. V. S. Kok, Chief Anaesthetist, Pretoria General Hospital, has circulated:

The Transvaal Provincial Administration in conjunction with the C.S.I.R. have recently appointed a Senior Bursar to investigate the causes of death associated with anaesthesia and surgical operations. The Bursar will work in Pretoria under the direction of the Head of the Department of Anaesthesia of the Pretoria University.

It has been suggested by the Steering Committee of the C.S.I.R. in charge of this particular project that the bursar should in the first instance direct his efforts to a statistical survey of the present position in South Africa. Owing to the paucity of records in most South African hospitals we are eliciting your help; and we sincerely hope that you will give us your full cooperation in this

matter, and supply us regularly with the required information from your hospital or private records. We hope that at least the teaching hospitals will cooperate fully in this scheme. For this purpose accurate anaesthetic records will have to be kept of every anaesthetic administered in the hospital.

We have already made an attempt to gather statistical information from all hospitals in the Union over the last 5 years; but the records were so meagre that they were not of much use statistically. Our present aim is to build up our own statistics over the next 3 years, and for this purpose we need the cooperation of every large hospital in this country.

We are not only interested in deaths associated with anaesthesia; but *in all deaths* occuring in the surgical departments of the various hospitals, and we would like details of every death whether before or after surgical operation, to be forwarded to us on the prescribed forms. From these details we hope, for example, to be able to get an idea of the incidence of coronary thrombosis and pulmonary embolus in surgical patients. We may also be in a position to ascertain whether a particular type of anaesthetic can be associated with these catastrophes. We are also interested to know whether the more or less universal use of the relaxant drugs have had an adverse effect on the mortality and morbidity rate.

THE PLAN

Briefly the plan is for every hospital willing to cooperate to send us details every 3 months *commencing from* 1 *May* 1956. Each hospital will be known by a code number only, and at the end of every 12-month period full details of all the information received will be forwarded to the various hospitals cooperating with us. The simplest procedure would be for the chief surgeon and chief anaesthetist of each hospital to work together, and submit the necessary information to the Medical Superintendent, for transmission to this office every 3 months.

The following detailed information is required from each hospital:

1. *Deaths not associated with anaesthesia.* Send an individual record of every death occurring in the various divisions of the Department of Surgery, before or after surgical operations, including deaths in the departments of Obstetrics, Gynaecology, E.N.T. etc. (see Appendix 1).

2. *Deaths associated with the administration of anaesthetics.* Send an individual record of every death associated with the administration of an anaesthetic; i.e. a record of every anaesthetic death referred to the District Surgeon in terms of Section 86 of the Medical, Dental and Pharmacy Act, 1928 (see Appendix 2).

3. *Anaesthetics.* Classify all anaesthetics administered as to agent and technique according to the categories laid down in Appendix 3. Report the number of cases for the 3 month period for each category. (In the smaller hospitals where no special anaesthetic records are being kept, details of the total number of anaesthetics administered each month will be welcome.)

4. *Total surgical admissions, operations and deaths.* Report according to departments, e.g. general surgery, orthopaedic surgery, urology, obstetrics etc. the total number of surgical admissions the total number of operations, and the total number of deaths for the 3-month period (see Appendix 4).

At the Annual General Meeting of the Society of Anaesthetists held in October last it was also decided to form a sub-committee to gather statistical information relating to deaths associated with anaesthesia. Details to this office from individual members of the Society regarding deaths in their private practice on the prescribed form (Appendix 2) will be very much appreciated.

All information received from individual anaesthetists or public hospitals will be regarded as strictly confidential and no names or places will be mentioned in any future reports or publications. Any suggestions to improve or simplify this scheme would be most welcome.

MINISTER OF HEALTH REPLIES TO THE HEALTH DEBATE IN PARLIAMENT

FROM A PARLIAMENTARY CORRESPONDENT

Mr. J. F. T. Naudé, Minister of Health, replying in the House of Assembly, to the debate in Committee of Supply on the Health vote, said he was of the opinion that there should be a certain measure of control over medical aid societies so as to ensure that the public was properly protected.

The Minister said he did not wish to create the impression that doctors' and specialists' fees were not fair, but they were surprisingly high and could ruin a man with a moderate income who had to cope with a couple of cases of serious illness. Medical aid societies could be of great benefit in this regard.

He added that he hoped to introduce legislation this session to enable the Medical Council to exercise control over practitioners who concluded agreements with medical aid societies. It had been brought to his notice that such practitioners were placed under an obligation to the societies, and this should be subject to control by the Medical Council.

Dealing with the shortage of nurses, Mr. Naudé said there was a general shortage of man-power and nurses were no exception. He thought that parents could do much to encourage their daughters to take up nursing, particularly as these girls would be under the care and supervision of a matron. Working conditions and salaries had improved considerably.

'I have been assured that there is another reason for the shortage of nurses', he said. 'There is practically no profession for women where the incidence of marriage is as high as in the nursing profession. I do not say they abuse their position when the unfortunate man is ill and has no adequate protection, but the fact remains that many of them do marry'.

The Minister announced that the question of mixed representation of the races on the Nursing Council was being investigated by a Select Committee. While he did not wish to anticipate the report of the committee, he hoped its report would make it possible to submit proposals for the separate registration of the two races. 'Next year provision would have to be made for the separate races', he said. 'The only reason why it is not being done now, is because we are waiting on the report of the Select Committee'.

There was full collaboration and contact between research institutes in the Union and similar institutes overseas. Dr. Ancel Keys was brought out by the Council for Scientific and Industrial Research, and he cooperated on the question of heart disease with local scientists. A few thousand Natives were examined and only one case of heart disease was found.

POLIOMYELITIS

Discussing the question of poliomyelitis, Mr. Naudé said it had practically been accepted that Natives were not easily attacked by the disease. It had been stated that because they grew up unhygienically, they had become immune. This year, however, it appeared that the majority of cases at East London—where a serious number of cases had been reported—were Natives.

Approximately 16,000 children were inoculated against poliomyelitis last year. This year the Poliomyelitis Foundation Laboratories would have sufficient vaccine to inoculate all children for whom inoculation is requested.

The vaccine was tested regularly and there was no question about the safety of the South African vaccine. The vaccine would be available in July and application for supplies must be made in the same manner as last year. Where parents desired that the inoculations should be done by their own doctors, the latter could apply for the vaccine direct.

In reply to a question, the Minister said sufficient vaccine would be available for non-European children as well.

RIFT VALLEY FEVER

Referring to the recent outbreak of Rift Valley Fever, the Minister said the disease was transmitted to human beings by a mosquito,

but it could also be transmitted where human beings ate or handled the meat of animals that had died from the disease, or where they drank the milk of infected cows. It was difficult to say what could be done to avoid contracting the disease.

Dr. Swinburne of the Rockfeller Institute and Dr. Whelan of the South African Medical Research Institute were at present investigating the outbreak in the Free State in collaboration with the Department of Health and the Division of Veterinary Services.

TUBERCULOSIS

The Minister announced that 19 mobile X-ray units had been acquired and these would start operating as soon as the necessary staff could be obtained. The intention was to hold a mass inspection throughout the country in order to ascertain the incidence of tuberculosis.

It was not intended to test everybody, but only those who had been in contact with active tuberculosis cases or who were presumed to be suffering from tuberculosis. As soon as the survey was completed, it would be possible to take the necessary further steps.

In this regard the Government would have to rely on local authorities. Without their assistance and the work done by SANTA it would be impossible for the Department to tackle the job, as it simply did not have the necessary staff.

'This is such a big question that we feel we can appeal to all medical people, to local authorities as well as the public, to assist in the fight against tuberculosis.

MENTAL PATIENTS

Dealing with the position of mental patients, Mr. Naudé said he thought it was scandalous for patients to be kept in gaol instead of being sent to an institution. He had managed to get the co-operation of the Public Works Department and the Treasury, and it was being considered what steps could be taken immediately to alleviate the shortage of accommodation in mental hospitals.

PASSING EVENTS : IN DIE VERBYGAAN

Members are reminded that they should notify any change of address to the Secretary of the Medical Association of South Africa at P.O. Box 643, Cape Town, as well as to the Registrar of the South African Medical and Dental Council, P.O. Box 205, Pretoria.

Failure to advise the Association can only result in non-delivery of the *Journal*. This applies to members proceeding overseas as well as to those who change their addresses within the Union.

* * *

Cape Town Paediatric Sub-group. The next meeting of this sub-group will be held on Friday, 8 June 1956, in the E Floor Lecture Theatre, Groote Schuur Hospital, Cape Town, at 8.15 p.m. Dr. S. Stein will give an address on 'Some Common Skin Diseases in Infants and Children'. Slides will be shown.

University of Natal. A refresher course for general practitioners will be held at the Medical School, Durban, on 24-29 September 1956. The course will consist of lectures and demonstrations illustrated by clinics and ward-rounds in various Durban hospitals.

The fee for the course is £3 3s. Applications should reach the Secretary, Refresher Courses, Medical School, Umbilo Road, Durban, on or before 20 August 1956.

* * *

Research Forum, University of Cape Town: There will be a meeting of the Research Forum in the A floor lecture theatre, Groote Schuur Hospital, Cape Town, on Tuesday 5 June 1956 at 12 noon. There will be 2 short papers: *Amino Acids and Kwashiorkor* by Dr. J. D. L. Hansen; and *Serum Protein Pattern of normal adult men in the Cape* by Dr. A. Antonis.

REVIEWS OF BOOKS : BOEKRESENSIES

POSTGRADUATE OBSTETRICS AND GYNAECOLOGY

Postgraduate Obstetrics and Gynaecology. Second Edition. By F. J. Browne, M.D. (Aberd.), D.Sc., F.R.C.S. (Edin.), F.R.O.G. and J. C. McClure Browne, B.Sc., M.B., B.S. (Lond.), F.R.C.S. (Edin.), F.R.C.O.G. Pp. 683 + viii with 141 illustrations. 78s. 9d. London: Butterworth & Co. (Publishers), Ltd., South African Office—Butterworth & Co. (Africa) Limited, Durban. 1955.

Contents: 1. The Supports of the Female Pelvic Organs. 2. The Uterus, Cervix, Vagina and Bladder. 3. The Ovary. 4. The Changes in the Genital Tract in the Menstrual Cycle. 5. The Development of the Placenta and Membranes. 6. Development and Abnormalities of the Female Genital Organs. 7. Infections and Inflammations of the Genital Tract. 8. Tuberculosis of the Genital Tract. 9. Gonorrhoea. 10. Puerperal Pyrexia and Puerperal Sepsis. 11. Thrombosis in Veins. 12. Physiology and Pathology of Lactation. 13. Stillbirth and Neonatal Death. 14. Third Stage of Labour and Post-Partum Haemorrhage. 15. Acquired Afibrinogenaemia in Pregnancy. 16. Shock in Obstetrics. 17. Simmonds's Disease. 18. Relief of Pain in Childbirth. 19. Aetiology of Toxaemias of Late Pregnancy. 20. Chronic Hypertension in Pregnancy. 21. Amenorrhoea. 22. Menorrhagia and Metrorrhagia. 23. Dysmenorrhoea. 24. Tumours of the Vulva and Vagina. 25. Benign Tumours of the Uterus. 26. Malignant Tumours of the Uterus. 27. Tumours of the Fallopian Tube. 28. Ovarian Cysts and Tumours. 29. Intersexuality. 30. Congenital Malformations. 31. Changes in the Circulatory System in Normal Pregnancy. 32. Heart Disease in Pregnancy. 33. Pulmonary Tuberculosis in Pregnancy. 34. Stress Incontinence. 35. Oliguria and Anuria. 36. Intestinal Obstruction in Pregnancy. 37. Abnormal Uterine Action. 38. Rupture of the Uterus. 39. Action of Drugs on the Uterus. 40. Sterility and Impaired Fertility. 41. Pain in Gynaecology. 42. The Ureter in Gynaecological Conditions. 43. Pre-Operative and Post-Operative Care. 44. Post-Operative Complications in Obstetrics and Gynaecology. 45. Blood Transfusion. Index.

This book consists of lectures given by that eminent teacher Professor F. J. Browne to doctors who intended to specialize in obstetrics and gynaecology. As such it should be an absolute boon to M.R.C.O.G. candidates, for whole examination questions seem to be 'worked out' for them.

This second edition has been completely revised and now appears under the joint authorship of F. J. Browne and his son, J. C. McClure Browne. Four new chapters have been added, including one on acquired afibrinogenaemia. It covers a great deal of gynaecology and obstetrics in a clear and lucid manner—an attribute which will be of great benefit to any student who finds difficulty in getting an answer to a thorny problem.

Chronic metritis (fibrosis uteri) and chronic subinvolution still find their place amongst the infections and inflammations of the genital tract. The authors have long been known for their views on the aetiology of the toxaemias of late pregnancy. In this edition they mention the possible role of the adrenal cortex in the condition—a view that is gaining popularity. It will be of great interest to see how the newly isolated adrenocortical steroid, androsterone, fits into this concept. Thyroid extract is recommended for the cure of the so-called Stein Leventhal syndrome. This seems an empirical form of therapy (as is wedge resection of the ovaries), for in the majority of cases there is no evidence of hypothyroidism. The authors' practice to remove the ovaries as a routine measure at the time of hysterectomy in women over the age of 43 will not find favour with all. The chapter on carcinoma of the uterus is well handled. They seem to prefer radiotherapy for cervical cancer, and radical hysterectomy with pelvic lymphadenectomy, followed or preceded by deep X-ray therapy, for cancer of the corpus uteri. Full recognition of the work of Roberts on stress incontinence is given, as well as a good summary of the numerous operations designed for its cure. The authors' comment that 2 or 3 new operations are probably reported every year is not an understatement and no doubt shows that the complete answer to the problem still evades solution. There is a useful chapter on the actions of drugs on the uterus. The authors pose the question whether it would be safe to leave a

placenta accreta (in the abscence of haemorrhage) to be absorbed. This practice has been reported on a number of occasions with safe and satisfactory results.

This book, although primarily written for the candidate for higher examination, will be found useful for all interested in the subjects.

W.H.M.

BACTERIOLOGY

Die Bakterienzelle. Ein Ueberblick über den gegenwartigen Stand unseres Wissens. Von Annelise Winkler, Professor für Hygiene und Bakteriologie an der Universitat Göttingen. Pp. 124, with 10 tables of pictures. Stuttgart: Gustav Fischer Verlag. 1956.

Contents: 1. Die Zellwand der Bakterien. 2. Die Kapseln der Bakterien. 3. Die Geisseln. 4. Die bakteriellen Zellkernäquivalente. 5. Das Cytoplasma und die cytoplasmatischen Einschlüsse. 6. Die Spore. 7. Abwegige Bakterienformen und die L Phase. 8. Untersuchungsmethoden.

Bacteriology in the past few years has, like so many of the natural sciences, made such enormous strides that it is hardly possible for the average bacteriologist to keep himself informed of what is known. This is where Professor Winkler's book fills a definite need. As her title says, it gives the present position, it reviews recent discoveries. It is the ideal book for quick orientation. It is written in a slightly critical spirit, but it refers to all kinds of modern work, undertaken in various countries. A couple of 'Stichproben' convinced me that nothing of importance has been left out. It uses information from the electron microscope but does not pretend that our salvation lies with that instrument. Particularly good chapters are those on cytoplasmic granules and the L phase. Recent heresies about flagella are treated fairly. The pictures are selected very carefully and are an education by themselves in modern bacteriology. It is miraculous how much information Prof. Winkler has condensed in her 124 pages, and we feel assured that every reader will be grateful that she undertook this task.

A.P.

INFANT CARE

The Care of Young Babies. Fourth Edition. By John Gibbens, M.B. (Cambridge), M.R.C.P. (London). Pp. 212 + v, with illustrations. 6s. 0d. London: J. & A. Churchill Ltd. 1955.

Contents: 1. Preparing for the Baby. 2. For Husbands and Fathers. 3. Clothes, Cot and Pram. 4. Growth and Development. 5. Breast-feeding. 6. Difficulties in Breast-feeding. 7. Artificial Feeding. 8. Early Mixed Feeding. 9. Feeding from Six to Twelve Months. 10. The Underweight Baby. 11. The Overweight Baby. 12. Nursery Routine. 13. The Care of the Skin and Hair. 14. Good Muscles and Sound Limbs. 15. The Care of Twins and Premature Babies. 16. The Sick Baby. 17. Miscellaneous. Appendix. Index.

Here is a book which practitioners would be well advised to recommend to young mothers. It is written in simple language, easily understood by any mother, and the author obviously knows just what they need to help them. He devotes much space to the very important question of feeding, stating that he believes 'most babies are born perfect, and when they fall ill during the first year it is often because of mistakes made in feeding'.

Nurses will find it a useful book to study and so will many young practitioners, but mothers will find it a boon and should be encouraged to read it. So popular is this book that the 1st edition, which appeared in 1940, was reprinted annually until the 2nd edition appeared in 1946. The 2nd and 3rd editions have also been reprinted and it is now in its 4th edition.

A.H.T.

AN ELEMENTARY BOOK FOR NURSE AIDS AND ORDERLIES

Mitchell's Anatomy and Physiology, and Causes of Disease. By H. C. Trowell, O.B.E., M.D., F.R.C.P. Third Edition. Pp. 244 + xvi, with 87 illustrations. 7s. 6d. London: Baillière, Tindall and Cox. 1955.

Contents: Part I: Anatomy and physiology. 1. Introductory. 2. The Nervous System. 3. The Skeleton. 4. Connective Tissue and the Muscular System. 5. The Circulation of the Blood. 6. Blood and Lymph. 7. Respiration. 8. Food: Digestion, Absorption, Metabolism. 9. Excretion of Waste Products. 10. Body Temperature and Fever. 11. The Reproductive System. *Part II: Causes of Disease.* 12. Introductory. 13. Protozoa. 14. Animal Parasites. 15. Undernutrition and Malnutrition and Other Causes of Disease. Index.

This little book is written in a simple and straightforward manner, being designed as an elementary introduction to its subject. It is one of a series that was originally known as 'Medical Manuals for Africans'. As such, while technical terms are used where necessary, the book is written in an English which is devoid of idiomatic expressions as far as possible.

This third edition has been revised extensively and it will be found to be very useful to those who are concerned with the teaching of African nurse aids and orderlies.

A.H.T.

ARTHROPLASTY

Arthroplasty. By St. J. D. Buxton, M.B., B.S., F.R.C.S. Pp. 126. with illustrations. 30s. London: Pitman Medical Publishing Co., Ltd.

Contents: Preface. Chapter 1. Historical. 2. General Principles. 3. Indication for Operation. 4. Analysis of the Problem. 5. Principle of the Arthroplasty Operation. 6. Complications and Difficulties of the Judet Arthroplasty. 7. Radiographic Bone Changes at the Hip. 8. Principles of Post-operative Treatment. 9. Rehabilitation following Arthroplasty. 10. Achievements. 11. The future. Appendix-Record Charts. Bibliography. Index.

In this monograph an attempt is made to analyse the problem of the painful and disabled joint. The indication for operation and the principles of operation and post-operative treatment are fully discussed—not only as applied to the hip, but to practically all joints of the body.

The author reviews the lessons of the last 50 years, and flavours these with a taste of his own experience covering many years and many arthroplasties on all joints. The section on the hip is based on the experience of 100 'Judet' and 50 mould arthroplasties. No new operations are described, because he favours the 'Judet' procedure albeit with certain modifications, e.g. the preference for the Kocher's incision and an unplasticized perspex containing radio-opaque wire or markers. One is struck by the comparatively few complications of this operation, but this may be just an impression, for only 48 of the 100 patients are followed up in detail.

There is an excellent chapter on rehabilitation after arthroplasty written by Diana B. Kidd, F.C.S.P., physiotherapist.

While the illustrations are scanty, the bibliography is extensive and the progress charts at the end of the book are most useful.

For the practising orthopaedic surgeon and the postgraduate student of sugery the book will be of value.

P.H.

EXPERIMENTAL PHYSIOLOGY

Experimental Physiology for Medical Students. Sixth Edition. By D. T. Harris, M.D., D.Sc., F. Inst. P., H. P. Gilding, M.A., M.D., and W. A. M. Smart, B.Sc., M.B., B.S. Pp. viii + 289 + 252 Illustrations and Plate in Colour. 30/- net. J. and A. Churchill Ltd. 1956.

Contents: Introduction. Instructions to Students. I. Excitation of Tissues. II. Physiological Dissection. The Preparation of Animals for Experiments. III—VI. The Circulation: III. The Physical Properties of Blood. IV. The Heart. V. The Blood Vessels. VI. The Circulation in Man. VII. Pulmonary Ventilation. VIII. Analysis of the Respiratory Gases and Energy Expenditure. IX. Body Temperature. Regulation of (i) Heat Production; (ii) Heat Loss. Statistical Method. X. The Gases of the Blood and Tissue Respiration. XI. The Reaction of the Blood. XII. The Digestive Organs. XIII. Urine Formation. XIV. The Contractile Tissues. XV. Electrochemical Behaviour of Excitable Tissues: Physiology of Peripheral Nerve. XVI. The Central Nervous System. XVII. The Physiology of the Sense Organs. XVIII. Exercises in Experimental Pharmacology. Index.

The 6th edition of this well-known practical text-book differs only in detail from its immediate predecessor. Some of the more elaborate electronic circuits shown in the 5th edition have been omitted, and the 6th edition is a few pages shorter.

The course described demands a high standard of teaching and equipment from the medical school and a high standard of ability and application from the student. The authors believe that: 'Difficulty is no obstacle to the average student today since the excellence of the scientific training in our schools enables all the experiments in this book to be classed as students' exercises'.

A sound knowledge of the principles of electronics is assumed; apropos of the cathode-ray oscilloscope, 'a suitable instrument can fairly easily be constructed if the student has time and inclination for the exercise'.

Modern techniques are described in sufficient detail and the classical experiments of physiology are not ignored. Adequate descriptions are given of the operative procedures required in the experiments. The field is wide, including experiments on cellular oxidation and on electrophoresis, which one might expect to find in a text-book of practical biochemistry. A useful section deals with experimental pharmacology and there is a short but clear introduction to statistical method.

The book arouses envy of the physiological laboratory which can offer such a course and sets such a standard, which in many cases must be ideal rather than practical. While its value to the junior student may be limited, it is a mine of useful information on the techniques of experimental physiology for the more advanced worker in this field.

A.W.S.

PROGRESS IN OBSTETRICS AND GYNAECOLOGY

Progress in Clinical Obstetrics and Gynaecology. By T. L. T. Lewis, M.B., F.R.C.S. (Eng.), M.R.C.O.G. Pp. viii + 594 + 90 Illustrations. 55s. net. London: J. and A. Churchill Ltd. 1956.

Contents: Part I. Obstetrics. 1. The Changing Practice of Obstetrics. 2. Toxaemia of Pregnancy. 3. Pregnancy and Heart Disease. 4. Pregnancy and Diabetes Mellitus. 5. Pregnancy and Pulmonary Tuberculosis. 6. The Aetiology of Congenital Malformation with Special Reference to Rubella in Pregnancy. 7. The Rhesus Factor. 8. Placenta Praevia. 9. Postmaturity. 10. Breech Presentation. 11. Cephalopelvic Disproportion and Contracted Pelvis. 12. Prolonged Labour Due to Inefficient Uterine Action. 13. Asphyxia Neonatorum. 14. Postpartum Haemorrhage and the Management of the Third Stage of Labour. 15. Afibrinogenaemia: Amniotic Fluid Embolism. 16. Prematurity. 17. Breast Feeding. Part II. Gynaecology. 18. The Changing Practice of Gynaecology. 19. Genital Tuberculosis. 20. Stress Incontinence. 21. Venous Thrombosis and Pulmonary Embolism. 22. The Investigation and Treatment of Infertility. 23. Endocrinology in Gynaecological Investigation and Treatment. 24. Carcinoma of the Cervix. 25. Intraepithelial Carcinoma of the Cervix. 26. Cytology in the Diagnosis of Uterine Malignant Disease. 27. Pelvic Exenteration for Advanced Malignant Disease. 28. Carcinoma of the Body of the Uterus. 29. Carcinoma of the Ovary. 30. Carcinoma of the Vulva. 31. Chorionepithelioma. 32. Functioning of the Ovary. Index.

This is a new book on Obstetrics and Gynaecology, and has been written to present the recent developments which have taken place. It has been compiled for the benefit of the specialist who has not the facilities of keeping up with the literature, and for postgraduate students who are specializing in this subject.

Both the obstetrical and gynaecological sections have an introductory chapter on the recent changes which have taken place; and this presents an interesting review of the modern trend in these subjects. New subjects, such as the effects on the foetus of rubolla in early pregnancy, afibrinogenaemia, amniotic embolism, pre-diabetes, have been adquately described, as have newer trends in the management of the new born.

In the section on gynaecology the author has discussed in detail the question of carcinoma of the pelvic organs and its management. As the author maintains, while gynaecologists are tending on the one hand to perform more extensive operations for malignant diseases, they are, on the other hand, stressing the importance of preserving function in benign conditions. Other subjects of interest are stress incontinence, venous thrombosis and pulmonary embolism, and the investigation and treatment of fertility. One feels that the chapter on the functioning ovarian tumours could have been described in fuller detail, and a significant omission is a discussion on virilism in the female and the question of ovarian hyperthecosis. Interest in the latter syndrome has tended to increase since it was first described by Stein and Leventhal.

This book has proved to be of great interest to the reviewer, and justice cannot be done to it in a short review. One feels that the author has largely succeeded in what he has set himself to do, and future editions should firmly establish this book as a 'must' for those studying postgraduate obstetrics and gynaecology.

T.St.V.B.

UROLOGY

The Diagnosis and Management of Urological Cases. By Bruce W. T. Pender, M.B., B.S., F.R.C.S. and James O. Robinson, M.A. (Cantab.), M. Chir., F.R.C.S. Pp. 170 with illustrations. 21s. London: Baillière, Tindal and Cox. 1955.

Contents: Chapter 1. Introductory. 2. The Prostate. 3. The Urethra. 4. The Bladder. 5. The Kidney and Ureter. 6. The Penis and Scrotum. 7. Genito-Urinary Tuberculosis. Appendix. Index. Plates. I. The Lithotrite and Cystoscopes. II. Catheters and Bougies.

The medical student often gets singularly little instruction in urology—one of the oldest branches of surgery. General surgeons, admittedly the best teachers for the undergraduate, either avoid the subject or teach it without detailed knowledge and perception which spring from daily practice, and the student's contact with urological departments is limited.

It is therefore desirable to have a small handbook setting out the broad principles of urological diagnosis and treatment. Such a manual should contrive to convey the urologist's special problems and point of view, without burdening the student's mind with details which he cannot hope to remember. If, in addition, the manual provides knowledge useful to general practitioners and housemen, and helps to fill the gap between the learning required for examinations and that provided by specialist monographs, its usefulness is beyond question.

This little book fills this gap and does its task well. The arrangement, illustrations and selection of subjects are admirable, and it gives an excellent summary of current British urological teaching.

Here and there one must disagree with what is said. For example, early permanent suprapubic cystoscopy—a treatment now abandoned by all specialized centres—is advocated for the bladder of the paraplegic. Perineal prostatectomy, widely practised in America, is condemned in the sentence 'its indications are few'. Ruptures of the bladder and intrapelvic rupture of the urethra receive adequate attention, but it is a pity that ruptures of the bulb are not mentioned at all. In the treatment of hydronephrosis, undue emphasis is placed upon the value of lumbar sympathectomy and of renal denervation. These minor blemishes are few, and partly arise from the need for compression.

The authors are to be congratulated upon the production of an excellent volume which should be possessed and read by teachers or urology and recommended to their students.

J.A.C.

CORRESPONDENCE : BRIEWERUBRIEK

THE DOCTOR'S RIGHT TO DISPENSE

To the Editor: We are informed by the lay press that the Minister of Health is to introduce a Bill to prevent doctors from dispensing if there is a chemist within 5 miles. If one gives the matter some thought it seems very doubtful that it has been presented to the Minsiter in the true light. I intend mentioning only a few obvious practical difficulties which will be encountered. In case those difficulties are going to be considered theoretical, let me state now that I have been in practice in a small Free State town for nearly 20 years, that I tried for a number of years to conduct a prescribing practice, and that eventually, in desperation, I had to give up and do my own dispensing.

At present Natives and the poor are examined and supplied with medicines by the doctor at a very small fee. In this area the inclusive charge is 10s. for an adult Native and 5s. for a child. The medicines alone will cost at least 7s. 6d. or 3s. 6d. at the chemist. Supposing the doctors are going to charge 5s. for a consultation, where on earth must the money come from to pay the chemist? I would like it to be very well understood that the doctors do not charge these small fees because they like to, but because they have to. It so often happens that we are not even able to get 5s. or 10s., but I still have to hear of the case where the doctor turned the patient away. Are the chemists going to be equally accommodating or will the needy in future have to pay more for treatment, or perhaps do without it, or doesn't it matter?

If perhaps I am unduly concerned about the poor, what is the position going to be with the person with a big, much overdue, chemists' account (this is not so rare as not to be supposed) for

say gramophone records, a radio, a watch or two, and even for medicines, when he keeps on presenting prescriptions adding, 'Just jot that down'. Is the chemist simply going to keep on supplying the medicines or is the day going to come when he is going to refuse? If there is only one chemist in the town, and that is not infrequent, who is then supposed to give him the medicine, or doesn't it matter if he or his dependents have to do without it?

What is the position going to be when the doctor visits a patient say 4½ miles out of town. The doctor may not give him the necessary tablets as he now does. It will simply mean that the patient will have to send to town to have the prescription made up. But suppose it is a poor person without means of transport, or doesn't it matter?

Let us once more consider the town with only one chemist. It is quite conceivable that he may suddenly take ill. Who is now, during the hours or days that he is trying to find a locum and waiting for him to arrive, going to dispense the medicines? The doctors certainly cannot because they wont have the stocks. Or what is going to happen when the chemist has left town, say, for illness, or a day's golf, or even for a quiet day on a farm? Will the people just have to do without medicines or doesn't it matter?

Unfortunately it all matters a great deal. But we will have to be the ones to make the necessary adjustments to overcome the errors of our legislators. We shall simply have to lower our fees in certain cases still further, say, to 2s. 6d. or nothing; we shall have to provide transport to and from the chemist, free of charge of course; we shall have to keep a fairly substantial stock of drugs for the occasions when the chemist is ill or away or in case he telephones and says, 'I say, old boy, I am off to the races, you may do the dispensing today'.

I can mention many more practical difficulties, but let these suffice.

In case I have given the impression that dispensing doesn't pay let me hasten now to correct that. Dispensing is very profitable. Without making us rich it makes it possible for us to do what we are now doing. I have been practising in this area for a long time, and I know it and all the neighbouring towns and their G.P.'s very well. Without fear of contradiction I can state that I know of no G.P. who has got rich by doctoring. Dispensing has helped to make it possible for us to stay here. It has become a definite part of the economic structure of the platteland general practice. We have paid for the goodwill of our practices, which included the dispensing side. Are we now, without a finger being raised by the Medical Association, or at best a feeble protest, going to be deprived of what we have paid for and what has made our work possible? We don't ask for compensation, although we may be morally entitled to that. We simply want our practices left intact. There is no doubt that if our dispensing is to be taken away from us many practising here now will have to leave either for the larger centres or perhaps even for one of the unfilled £900 per annum Government posts. Perhaps the Bill is not so senseless as at first appears.

After calm consideration I cannot believe that the Minister will be bluffed into something which is going to be most unfair and inconvenient to the public and doctors alike. I feel certain that he has been given wrong information by the chemists. It seems impossible, if the true facts had been laid before him by the Medical Council and our Association, that he would have contemplated introducing this Bill. The people to be blamed are not those of the Public Health Department but our own bodies.

I would be a fool to believe that this letter will influence the Minister, but I dare hope that it will convey to the Medical Association only a few reasons why it should come to our assistance with all the force at its command. No steps can be too strong to combat the introduction of the Bill. When once it reaches Parliament I think it will be too late.

'Platteland G.P.'

22 May 1956

THE DOCTOR'S RIGHT TO DISPENSE

To the Editor: I have read your report[1] on the memorandum submitted by Dr. Loubser to the South African Medical and Dental Council and I trust you will permit me to reply to the points he raises in opposition to our request for protection from the dispensing, trading doctor.

Since few doctors, if any, remain who hand over medicine as a 'free' issue included in the *normal* charge for a consultation, it is obvious that the rural population (especially the non-Europeans) have long ago realized that they have to pay for medicines apart from paying for the consultation or the 'note' as Dr. Loubser puts it.

As for the patient having to go 5 miles to get material for an injection, it should be clear that the proposed amendment of section 73 of the Medical, Dental and Pharmacy Act will provide that in emergency a doctor may still issue a drug to the patient. Surely parenteral therapy is usually a matter of urgency and who will wish to query the doctor's right to decide the degree of emergency? When it is not urgent the treatment can start later without prejudice to the patient.

In regard to chemists being available after 5 p.m., may I say that even in country areas chemist shops do not close as early as that. The average is 5.30 p.m. and the local chemist is always on call at any hour of day or night. In the large cities the Pharmaceutical Society's Branches operate emergency after-hour dispensaries. Johannesburg has 6 and there are 4 serving the East Rand. Similar establishments exist in Cape Town, Durban, Port Elizabeth and East London. In other places and sometimes in addition to the emergency dispensaries, the local chemists organize rota-service for night and week-end dispensing. Then, too, there are many privately owned pharmacies which offer night-service facilities.

Can any doctor conscientiously say that the reason why he dispenses is because the chemist does not cater for after-hour service? In all fairness I submit that in the same way as the doctors seek to protect themselves by controlling the auxiliary medical professions and even their own specialists register, so the pharmacist is entitled to have his professional work protected from competition and secured from intrusion of another profession. We are not seeking our economic advancement. In opposing us, it is the doctor who does that. He is trying to maintain a position which enables him to accrue profit from the medicine he dispenses. He surely does not pass it on to the patient at actual cost?

A. Kramer
Dip. Pharm. (S.A.) M.P.S.
P.O. Box 7553
Johannesburg
22 May 1956

1. Loubser, J. N. W. In Report (1956): S. Afr. Med. J., **30**, 348.

[From ancient times it has always been the right (and it is still, when necessary, the duty) of medical practitioners to dispense the medicine needed by their patients. Many doctors do not use the right but all doctors will fight to preserve it.—*Editor.*]

FAMILIEBETREKKINGE VAN BEHOEFTIGE PASIËNTE

Aan die Redakteur: Dikwels gebeur dit dat behoeftige pasiënte ernstig siek en op sterwe lê in hospitale vêr van hul tuisdorp. Die familie (ouers of kinders) wil dan graag soontoe gaan maar beskik nie oor die geld vir die treinkaartjie nie. Soms kom die pasiënte daar te sterwe en kan die familie nie eers die begrafnis bywoon nie. Ek het gevind dat die nie-blanke bevolking veral vreeslik hier onder ly. Ek wonder of van ons kollegas in die Parlement nie kan help vir wetgewing sodat die magistraat in sulke gevalle 'n treinkaartjie aan die naasbestaandes kan gee nie.

T. B. de Bruyn.
Cradockstraat 4
Steynsburg

LAMELLAR SCLERAL RESECTION

To the Editor: May I congratulate Mr. Staz on his excellent article[1] on this subject in your issue of 31 March. Surface mail is the cause of delay in my writing. As I have worked with Mr. Shapland for some time, and seen a large number of sclerectomies performed, and have personally completed a large series, may I submit the following comments:

Indications. I agree with numbers 2-6, but disagree with the age limit of 50 years. A most important factor is the degree of flattening of the detachment in the pre-operative positioning stage; this is often related to the length of history, over 1 month usually requiring scleral resection.

Pre-operative Routine. The value of correctly positioned bedrest is unquestionable. Blocking the foot of the bed is of great

value in superior detachments, especially if a very thin pillow is used together with a U-shaped chopping-block-like cushion which supports the back of the neck.

Operative Technique

1. General anaesthesia is preferably used. Apart from the greater comfort to the patient and surgeon one avoids the use of retrobulbar injections. These have the danger of causing haematoma (necessitating postponement of operation) and moreover lower the intra-ocular tension, which should be avoided until the sclerectomy has been completed. When general anaesthesia is used extra scoline and pentothal given intravenously at a suitable moment lower the tension after 2-3 minutes and can be used in place of a paracentesis.

2. I diathermize the margins of the tears only if they will not be covered by the sclerectomy. I agree whole-heartedly with the advocacy of very light diathermy.

3. Occasionally one divides more than one rectus, and the strip (in high myopes) may be placed 11 mm. back and vary in width from 3 to 5 mm.

4. I always use interrupted sutures. No confusion occurs if only 4 sutures precede the application of KOH and then the intervening sutures are inserted as required. In this way a more even tension is achieved.

5. A most important point in the drainage of sub-retinal fluid is the use of catholysis puncture (3 ma) and the introduction of the needle only into the sub-retinal space. Cautery puncture should be avoided at all costs.

6. A very useful modification is the introduction of sterile air (½-1 c.c.) into the vitreous. With superior detachments the patient can be nursed in an upright position; the air splints the tear-area when it is superior; when large amounts of sub-retinal fluid have been removed the contours of the globe should be rapidly restored; in the aphakic detachment air can still be used provided it is introduced into the anterior chamber first and then into the posterior.

Through a diathermized spot 8 mm. posterior to the limbus a small incision is made down to choroid between two arms of a pre-placed suture, before the globe is punctured. Then after the sclerectomy has been sutured an autoclaved needle (Record No. 20 attached to a syringe of which the plunger has been raised, so as to contain 1½ c.c. of air before autoclaving) is inserted through the incision into the vitreous towards the centre of the globe, and the air instilled. As the needle is withdrawn the suture is tied.

Post-operative Routine. One feels that post-operative positioning for 2 weeks with double padding is important. Prophylactic Procain-penicillin is given daily for 1 week. Blacking out the patient's glasses, leaving a 5 mm. central area clear provides more comfort than the usual pinholes.

I believe the above modifications add to the safety and success of the operation.

W. J. Levy

Moorfields Eye Hospital
London, E.C. 1
10 May 1956

1. Staz, L. (1956): S. Afr. Med. J., **30**, 316.

ASSOCIATION'S PROPOSED MEDICAL AID SOCIETY

To the Editor: I was very surprised to read the report and recommendations of the Sub-committee of Federal Council on the Economics of Medical Practice[1] in the *Journal* of 12 May 1956. There are 3 fundamental features which are the cause of my concern.

1. *The Profession's Wishes*

To start with, the last line of the report, viz.'the various subgroups within the Association have to be consulted regarding fees and other matters' is just a little presumptive in view of the fact that to the best of my knowledge *members* of the Association have not been consulted at all on the principle of (*a*) the need for such a society, and (*b*) the benefits accruing therefrom.

I should like to recall Dr. M. Shapiro's own concern over the manner in which the specialist register was virtually 'forced' on the profession in 1938; is this medical aid plan of Federal Council not an analogous situation? Following on the very excellent report[2] of this same sub-committee, published on 4 February, this second report with the proposed plan now comes as a bombshell with far-reaching consequences. Surely the fullest discussion by Branches, Groups and sub-groups of the Association will be necessary to ascertain the wish of the profession on such a far-reaching scheme, before Federal Council even considers implementing it?

2. *Finance and Administration*

Medical aid societies in general in this country are non-profit-making concerns. They are administered by widely experienced business men and fully trained staffs, and notwithstanding this there are no profits to be made. On the contrary the income from members' subscriptions, which is their only source of revenue, hardly covers the cost of administration and the payment of claims, so much so that many of them have to be subsidized by the firms concerned. How then does the Association hope to administer a scheme which will provide better benefits for the member and the profession alike?

In fact, it is my humble opinion that the administrative costs to the Association would be very much higher than that of existing medical aid societies if the Association were to organize their society along the lines of 'as many as 5 different schedules' in according with members' incomes. The full resources of the Treasury and the Receiver of Revenue will be required to keep track of increases and decreases of members' salaries, which would move them from one schedule to another. History has shown us here, and overseas, that a means test is absolutely impracticable.

Paragraph 9 (iii) contains the monstrous suggestion that doctors will not even know what remuneration they will receive from any particular service. This 'blank cheque' system will make the compilation of income-tax returns well-nigh impossible, apart from the fact that this proposal must surely be distasteful to the doctor, when Dr. M. Shapiro himself says that the general practitioner today is facing financial ruin (paragraph 64 of the Report published on 4 February[2].)

This new plan then would appear to be a long way from rectifying the anomalies expounded in the original report, with regard to improving the lot of those practitioners who Dr. Shapiro points out, are facing financial ruin.

3. *Free Choice of Doctor*

It is fundamental that there should be a free choice of doctor, and the Association has directed considerable energies towards achieving this. It is equally desirable that all members of the profession should be members of the Association as well, but unfortunately this Utopia does not exist; and doctors at present outside the Association ranks will not be bludgeoned into membership of the Association in return for the right of participation in this proposed medical aid scheme as required under paragraph 14.

It would appear that this clause is a violation of the principle adopted by the World Medical Association, of which South Africa is a member. One of the 'Twelve Principles of Social Security' of the WMA (Vienna Assembly 1955)[3] reads as follows: '*Clause* 10: *Any social security or insurance plan must be open to the participation of any licensed physician, and no physician should be compelled to participate if he does not wish to do so*'.

This proposed plan of Federal Council would apparently be closed to those 'licensed physicians' on the South African register who are not members of the Association, and herein lies the dangers and far-reaching consequences of which I wrote earlier.

There are many other points on this report on which I could dwell at length. It is high time the Branches, Groups and subgroups were given the opportunity of the fullest discussions on these matters before Federal Council proceeds with a plan which in its present form would appear to be doomed to failure.

It is not the question of existing medical aid societies that is at fault; revision of the tariff is long overdue. If the tariff is revised, the whole need for the proposed plan will fall away.

A. D. Bensusan

7 St. Paul's Road
Johannesburg
18 May 1956

1. Shapiro, M. (1956): S. Afr. Med. J., **30**, 460.
2. Association News (1956): *Ibid.*, **30**, 114.
3. Goldberg, A. L. (1955): *Ibid.*, **29**, 1208.